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ABSTRACT

A compilation is made of reports from a conference dealing with workable administrative practices which provide for individual differences. The nature of individual differences as they operate in reading instruction is defined, and various dimensions, such as growth ages, sex differences, intelligence, cognitive abilities and styles, are discussed in the introductory article. Different aspects of individual variations in reading ability are provided for in chapters discussing the following administrative frameworks: in-class grouping, the Joplin plan and cross-grade grouping, individualized instruction, team reading instruction, reading in the nongraded school, and reading in departmentalized elementary and secondary classes. A summary is made from an overall vantage point, and recommendations are offered. References are included for each article. (This document previously announced as ED 025 398.) (CM)

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ORGANIZING FOR INDIVIDUAL DIFFERENCES

Compiled and Edited by
WALLACE Z. RAMSEY

The University of Missouri at St. Louis

IRA

Prepared by a Committee of the
International Reading Association

Wallace Z. Ramsey
Chairman of the Conference

INTERNATIONAL READING ASSOCIATION
Newark, Delaware 19711

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FOREWORD

OVER THE YEARS classroom teachers and supervisory-administrative personnel have struggled to solve the problems arising out of the individual differences among the children in our schools. Children vary widely in their ability to learn, their special aptitudes and interests, the nature and comparative richness of their environment at home and in the community as a whole, and their ability to absorb what this environment offers. How can a teacher of thirty or more individuals find the time and energy to search out the particular needs and resources of each pupil day by day, to make available to each currently valuable materials and learning activities, and then to divide up the school day among the children so that every child gets the attention he should have? Most teachers find this responsibility almost too demanding, yet they try. This bulletin is a compilation of reports by persons who have developed and used workable administrative practices in caring for individual differences.

In planning for IRA's program of work for 1966-67, the president believed that she could provide a real service to teachers of reading by bringing together reports on constructive ways of dealing with individual differences. Since Wallace Ramsey in his work at the University of Kentucky had been helping various school systems to experiment in this field, he was asked to develop the Ninth Perspectives in Reading Conference in Seattle. This bulletin is comprised of the papers presented there.

Competently defined in the first chapter is the nature of individual differences as they operate in reading instruction. Chapters which follow present views of persons peculiarly fitted to treat each of the following aspects of administrative provision for individual variations in reading ability.

In-Class Grouping
The Joplin Plan and Cross-Grade Grouping
Individualized Instruction
Team Teaching of Reading
Reading in the Nongraded School
Reading in Departmentalized Classes in Elementary and Secondary Schools
A Conclusive Look at Caring for Individual Differences in Reading

It is hoped that administrators, supervisors, and teachers in particular will find in this bulletin guidance and practical help in the problems posed by the individual differences among pupils in their schools.

MILDRED A. DAWSON
President, 1966-1967
International Reading Association

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The International Reading Association attempts, through its publications, to provide a forum for a wide spectrum of opinion on reading. This policy permits divergent viewpoints without assuming the endorsement of the Association.

ABOUT THE AUTHORS

WILLIAM POWELL is Director of the Center for Reading Research and Instruction at the University of Illinois. He holds the master's degree from Indiana State University and the doctor's degree from Indiana University. Dr. Powell served as a member of the IRA Committee on Studies and Research during 1963-1967.

HELEN DRISCOLL served as Elementary Coordinator in the Denver (Colorado) Schools during 1966-67. She holds the master's degree from the University of Denver. She has taught remedial reading at both the elementary and the secondary levels. For three years she was on special assignment in the Denver Reading Study. She was IRA Organization Chairman for Colorado during 1966-1967.

DONALD CUSHENBERY is Director of the Reading Clinic at the University of Omaha. In 1964, he wrote his doctoral dissertation on "The Joplin Plan in Joplin" and received his doctor's degree from the University of Missouri. Dr. Cushenbery has taught at both the elementary and secondary levels in Kansas. During 1966-1967, he was IRA Organization Chairman for Kansas.

ELAINE VILSCEK is Assistant Professor of Education at the University of Pittsburgh. She received her doctor's degree from the University of Pittsburgh in 1964. She taught in public and private schools in Pennsylvania and served in the Falk Elementary Laboratory School at the University of Pittsburgh as a demonstration teacher. She was codirector of one of the twenty-seven first grade reading studies supported by the U.S. Office of Education.

WILLIAM J. UNDERWOOD is Assistant Superintendent of Lee's Summit (Missouri) Schools, where he is in charge of instruction. He received the master's and doctor's degrees from the University of Missouri. He has had varied experience as an elementary and secondary school teacher and administrator. His school system, in suburban Kansas City, has utilized many innovations in efforts to improve education.

JIMMIE NATIONS was staff associate in the Institute for the Development of Educational Activities at Los Angeles during 1966-1967. He received the master's degree at Emory University and has done extensive work towards the doctorate at U.C.L.A. He was first

grade teacher in the Englewood (Florida) Nongraded Elementary School and served as a master teacher in the Harvard University Master of Arts in Teaching Program.

ELAINE STOWE is program specialist in the language arts in Sacramento, California, Schools. She holds the master's degree from Sacramento State College. She has taught at both the elementary and secondary levels in California Schools and has served on the California State Curriculum Commission.

WALLACE RAMSEY was Director of Graduate Reading Studies at the University of Kentucky during 1966-1967. He holds the master's and doctor's degrees from the University of Missouri at Columbia. He taught in elementary and secondary schools in Missouri. He was Chairman of the IRA Committee on Studies and Research in 1963-65 and IRA Organization Chairman for Kentucky.

WILLIAM R. POWELL
UNIVERSITY OF ILLINOIS

1. The Nature of Individual Differences*

THE CONCERN for individual differences in reading behavior stems from the fact that some children are found to be successful while others are not. The related variables which make these two types of children differ must be identified, and attempts must be made to control or modify them. An examination of individual differences in reading performance, therefore, leads into the reticular formation of relationships and causes of differential achievement and their implications for instructional programing.

Differences between and within individuals are the primary focus of this chapter. Many factors affecting individual differences obviously could be identified and explored at length; only those traits, however, which have a presumed effect on reading achievement will be given particular attention here. The many approaches and plans which attempt to account for and channel these differences into instructional schemes remain outside the purpose and scope of this discussion. It is the purpose of the following chapters to attempt to explain the various administrative devices which try to accomplish, within our present state of knowledge, this persistently controversial task.

Any survey of individual differences must inevitably be incomplete. As more information about the topic accumulates, new methodology for further research is discovered and thus makes further inquiry necessary. This phenomenon is well illustrated by the change in the titles of two recent reviews of the psychological literature in this field. In the 1960 edition of the *Annual Review of Psychology*, the topic was entitled "Individual Differences," (8). The next review, five years later, gives the label "Human Abilities" (9) to the same subject. If one can assume this is not the game of changing labels on an old product just to make it marketable, the shift in nomenclature might indicate a new focus on the same problem.

One of the most serious problems facing a student in this area is the lack of structure in it. Apparently, a cohesive, unified frame-

* This work was supported in part by the Center for Reading Research and Instruction, College of Education, University of Illinois.

work underlying the topic does not exist. The organization, therefore, of the material that follows represents the idiosyncratic nature of both the topic and the author. First to be discussed will be some of the sources of difficulty behind this lack of cohesiveness; reference will be given to causes of individual differences. The four characteristics which permeate any discussion of the subject will be presented; and then, in turn, the writer will identify and discuss a few of the important dimensions of individual differences which can affect reading instruction.

Sources of Difficulty

One explanation for the diversity and diffusion (and perhaps the confusion) of the topic, individual differences, lies in the imperfection of the two main sources supplying most of the information about it. Historically, the genesis of individual differences resides in psychological measurement and test theory and in various multivariate statistical methods, particularly factor analysis. The recent literature is very enamored of factorial techniques which move toward the further distillation of abilities, traits, and other related variables. While factor analysis does hold some hope of hierarchically structuring some of the bits that other statistical nets are ensnaring, it suffers from incompleteness; or, it might be more accurate to say, it suffers from difficulty of interpretation. A key question in factorial problems is "When have we segmented and specified the constructs sufficiently?" or in other less esoteric terms, "When have we cut the pie into the right number of pieces knowing that further slicing will produce just useless crumbs?"

The basic concept in psychological measurement and test theory which provides the foundation for individual differences is the concept of dimensionality. The assumption is made that differences between pupils can be measured in terms of identifiable abilities, traits, or dimensions. A given score on a reading test is supposed to indicate how far a youngster is above or below the norm of a selected reference group. Tyler (*23*) contends that "in this system the *uniqueness* of the individual is defined by his *combination* of measurements along all possible dimensions. A person is represented by a point in *n*-dimensional space." Within his point of view, an individual is the sum of his multidimensional traits, while the differences among and within individuals are due to the variation on these many coordinate, but not identical, dimensions. While this concept undoubtedly has

furthered our understanding about individual differences, it has simultaneously clouded our perspective concerning the use of discontinuous traits, i.e. non-dimensional qualities such as likes and dislikes in the study of differences between individuals. Instructional programs attempting to give serious attention to individual differences must provide for discontinuous, as well as continuous, traits of the individual.

A second source of difficulty in the delineation of individual differences centers around the identification of the most significant traits or abilities for study. If a single criterion could be identified for selection, the task would be greatly simplified. Regrettably, this approach is not possible, nor do there appear to be any signs which would support the idea that it will be possible in the near future. What happens in practice is that a researcher selects for study those variables which are related to his area of expertise. Thus, the neurologist seeks specific brain lesions as the cause of differential performance; the medical practitioner, physical and metabolic explanations; the vision specialist, ocular defects and dominance; the psychiatrist, personality aberrations; etc. Quite practically, the type of variables of concern to a researcher or a school administrator may vary considerably due to the setting or the expected application.

A person who is concerned with differences in terms of planning for an entire school district might logically place more importance on different factors than will a person who is planning a program for a single classroom, a gifted group, or a remedial class. The optimist continues to hope that one of these days in the development of prediction formulas we will be able to select and weigh the various factors of significance; but, alas, even this solution implies judgments on the part of the investigator, and thereby selection is influenced by a person's area of special interest.

Probably the greatest source of difficulty in the analysis of individual differences lies in the problem mentioned above, namely, the diverse character of the field and the apparent fact that the variables pertinent to reading behavior do not fit any generalizable additive model. To have such a model, it would have to run like this: a given amount of skill *A* requires a designated amount of skill *B* whereas, if skill *A* is absent, no amount of skill *B* will be sufficient to compensate for it. Separate components of reading performance interact instead of serving as an either-or function in an adaptive organism. (Fortunately!) Many children are reading today because compensation, somehow, can be made.

Etiology of Individual Differences

It would serve no useful purpose in this chapter to enter into the polemics surrounding the causes of individual differences. It should be sufficient at this juncture to enumerate and define the two most fundamental causes generally listed and to indicate the current directions in this area.

Since the days of Galton, psychologists have pitted heredity against environment in a pseudo-issue which has settled down into what is today known as the interactionist theory on the regulation of human development (*1, 14*). This theory states that the genetic factors depend upon the stimulation from the environment and that the environmental factors depend upon certain genetic mechanisms for full actualization. This issue is sometimes labeled the "nature-nurture" controversy. Both heredity and environment set limits for an individual. Heredity sets the absolute limits as to what it is possible for one to do or to become, while the environment sets the limits as to what one actually does with the inborn equipment that he receives through biological inheritance.

Recent advancements in a relatively new field, molecular biology, have begun the process of breaking the "genetic code" of an individual, and these advancements are providing the stimulus for new avenues of research into the dominant traits that are inherited. Refined experimental techniques used in investigations conducted with twins (*24*) and other siblings raise new questions about the relationships among intelligence, socioeconomic subpopulations, personality, etc. On the environmental side, the recent inauguration of stimulation programs, such as Head Start and the Neighborhood Youth Projects, may provide some of the necessary missing data as to how much and in what ways stimulation through education and training can assist in the developmental growth of an individual.

Characteristics of Individual Differences

Although the literature concerned with individual differences is highly fragmented, four basic concepts tend to implicitly characterize this diverse area. Any programic attempt to improve reading instruction is confronted with the situation of having to deal with these latent characteristics. The four characteristics which typically affect individual differences are normality, variation, covariation, and velocity.

Virtually all measures of traits and abilities, whether they be physiological or psychological or any combination of traits, show the characteristic of *normality*. In any measurement of large groups of individuals the results tend to be distributed according to the normal probability or bell-shaped curve. The distribution is bilaterally symmetrical on each side of the mean with just as many persons above the average as below it. In Figure 1, the normality is indicated by the shape of the curve and the even numbers represented on each side of the mean.

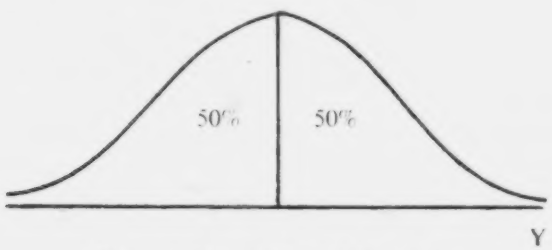

Figure 1. Normal Probability Curve

Everyone knows that living things vary. Two trees are never exactly alike. Not all puppies born to the same dog in the same litter are exactly alike. Individuals are not different in this attribute (except identical twins, and environment soon modifies even their sameness). *Variations* are the deviations among the members of any species of living organisms. On any given measure, individual scores tend to disperse or spread themselves out on a continuum. This range or distribution is illustrated in Figure 1 by the line XY. If a heterogeneously grouped classroom is measured on the same selected factor, such as average reading ability, the range of average reading ability (the spread from the best reader to the poorest) is usually two thirds of the chronological age of the usual child in that classroom" (7). Teachers with heterogeneous classes have to find a way to meet the wide range of differences to provide instruction.

The difficulty in reducing this range of differences is closely related to the problems of assessment. When one moves from the original separating criterion (in this illustration, average reading ability), the scores tend to disperse again on any other criteria, such as vocabulary, comprehension, or the more specific skills of syllabication or summarizing. The fact that persons have intra-individual as well as inter-individual variation causes the reduction

of heterogeneous groups to be possible by only 20 to 25 percent. We can reduce the range of scores, except on the original factor, only by one fourth to one fifth of the initial spread (*6, 1*). This fact means that if we were to make a profile analysis of the specific reading skills of a group of youngsters, after grouping initially on average reading ability, the intra-individual test patterns would reveal wide discrepancies (up to 75-80 percent) between areas and types of competence. The phenomenon of intra-individual variation in reading abilities is, in fact, so common that it is surprising how little it has been utilized or even investigated.

Not only do traits and abilities vary but they *covary*. Separate reading abilities do not develop along a discrete parallel continuum; they interact and are interrelated to the other reading skills. In the development of reading behavior, a child's word perception skills normally grow in a close relationship with his comprehension skills. This nature is undoubtedly true of the highly specific skills within an area such as word perception. Covariation is a positive sign, and it is only when selected reading skills do not covary in their usual relationship that difficulty is encountered. It is when normally covarying abilities become discrepant that difficulty arises. When such cases occur, a differential diagnosis is necessary.

Within normal development, abilities are not stationary, although admittedly they can enter into an abeyant state. Children grow, develop, mature, and learn, but at an individual rate or *velocity*. The term velocity implies direction. Pupils' rates of change in a given direction not only differ but fluctuate. Each child has his own built-in velocity system; and even with youngsters who apparently have the same rate, their cycling process (rate of fluctuation) often operates on a different calibrated scale. One child's learning rate *plateaus* for a period of time, while the other child's learning ascent moves forward, only to level off at a different stage. Both children could have the same generic learning ratio, but the teacher perceives a notably different style of learning.

Dimensions of Individual Differences

"Difference" implies a comparison with a criterion or standard. Typically, two types of standards are considered for comparison purposes. One type lies outside the individual. Often this type of difference is expressed in terms of some previously defined, hypothetically average person. These differences are *inter-individual*.

The second type of difference is considered in terms of the individual himself and thus is an *intra-individual* difference. One teacher expressed this type of difference well when she told the writer that "the child is a whiz at calling words, but he cannot tell me a thing about what he has read."

Intra-individual differences often deal with constructs which may also be described in both inter- and intra-individual terms: "The child has the word pronunciation ability of a seventh grader, but he comprehends at the second grade level."

Whether to compare a skill internally or externally can best be decided in terms of the type of educational decision to be made. Perhaps too often the classroom teacher has the tendency to limit his observations and concern to the intra-individual differences. Typically, the focus on intra-individual differences is attended to only when a child has been singled out for more intensive evaluation. Far too frequently, plans for instruction are based on the differences between individuals and neglect to account for the differences within individuals. Ideally, both types of differences should be given equal consideration in planning for more efficient and effective educational programs for children.

Dimensions of individual differences which have direct influence on reading growth are many. What follows are dimensions which represent the major variables investigated in this relationship: chronological age, growth age, sex differences, intelligence, cognitive abilities, cognitive style, interests, and cultural background. Some of these dimensions are distinctly inter-individual differences; others represent both types of differences.

Chronological Age

Chronological age is considered to be a unitary inter-individual difference. This dimension of individual differences has been traditionally (and basically still is) the standard basis for school admission and promotion policies. The implications from such policies have applied, unfortunately, even to the level of instructional materials to which children are exposed during the school year.

As our knowledge from research has accumulated about rates of growth, maturation, and learning, it has become more widely recognized that chronological age is insufficient as a single criterion for school admission. Regrettably, the legal structure has not yet acknowledged this fact completely. However, Vernon (*25*) implies that at present this is the only stable and accurate assessment

which is acceptable to society as all other arrangements tend to arouse intense controversy.

Comments are frequently made using age as the referent, when in reality what is implicitly meant is ability, interest, aptitudes, etc., of the average child of a specific age. In spite of all the inherent difficulty in the use of the criterion of age as calculated from the calendar, it has the strong practical appeal of simplicity. Chronological age can be easily and accurately determined, is readily understood by all, and is subject to a very stable rate of change (*25*). In our culture, the greatest asset in the use of chronological age is probably that it is extolled with the popular virtue of being democratic, non-prejudicial, and equalitarian.

Growth Ages

In evaluating the total growth of a child, many different ages can be determined—not just chronological age. Relying principally upon physiological and anatomical growth factors, Olson (*19*) developed the concept of organismic age. He averaged the seven qualities of weight, height, dentition, carpal development (measurement of wrist bones), grip, mental age, and reading age into a composite score which he contended represented the central age of the organism. It is readily apparent that this procedure of Olson's is heavily weighted in favor of the physical characteristics of an individual's growth pattern. Five of his seven factors are physical measurements. Whether just adding a few psychological measures to several aspects of physical growth raises our predictability of educational achievement is severely open to question. In fact, other investigations (*5*) have challenged this concept. The adding of physical factors to mental age alone will raise a multiple correlation coefficient a negligible amount. The difficulties in obtaining and integrating such data would hardly be worth the effort, that is, if prediction is of primary concern.

A similar type of approach of combining various factors, only this time with the emphasis being more on the psychological factors, is now being experimented with in various parts of the country. This approach produces an emotional age or behavior age and may indicate whether a child is under- or over-placed in his school setting (*15*). Such an approach, and any others like it, challenges the use of chronological age as the major determinant of individual differences in school placement.

Sex Differences

Sex is distinctly an inter-individual difference. Differential performance between the sexes, especially in reading, have been reported with consistent regularity. Three hypotheses have been offered to explain this phenomenon—a maturational based theory, an identification hypothesis, and a conjecture based on the evolutionary character of man.

The classic explanation for the sex differences in reading is based on the fact that boys have slower maturation rates than do girls. By inference, it is suggested that this difference affects the reading achievement of boys. While this differential growth rate does exist between the species' gender, this theory does not account for the existence of the greater differences within a particular sex in achievement than the differences between the sexes in reading performance.

The second hypothesis offered to explain the sex differential in reading achievement is expressed in terms of sex-typed behavior and sex-role identification. Boys in our society are taught to view feminine pursuits with disdain as indicated by a youngster's remark when told to do some of the housework, "Aw, gee, Mom—that's sissy work." If boys perceive reading in a similar manner, then reading becomes inappropriate for them. Cultural patterns encourage certain types of sex-linked activity. Our culture encourages boys to seek out roles which exemplify that mythical "All-American Boy"—and that role does not emphasize reading in the idealized model. Further complications arise when a culture does not provide ample opportunities for identification with appropriate models at home and at school. It is suggested that our culture suffers in providing such models. The cultural limits of such a view are supported by the Preston (*20*) study which indicated that in Germany the boys typically are better readers than girls. As added injury, one recent investigation indicates that the teachers' marks (grades) are biased in favor of girls over boys (*2*). Should a male youngster select a sex role rationale for his difficulty, he likely will find much corroborative evidence in the classroom.

Bannatyne (*3*) suggests a third hypothesis for the differential achievement between the sexes. He explains these deviations as a function of an evolutionary difference based on survival value. Bannatyne speculates that men of greater visuo-spatial ability (the ability to manipulate objects and their inter-relationships intelligently in three dimensional space) tended to survive and reproduce. Those that did not have this ability risked the possibility of extinction. The strong visuo-spatial male was more adroit at throwing

spears, shooting arrows, and avoiding his adversaries than were those of low ability in this area. In contrast, the female, in order to be successful in family rearing, needed to be able to manipulate the members of the family group. This manipulation required excellence in communication or verbal skills. The spatially able tend to utilize both visual fields and both hemispheres of the brain. The verbally able, in western languages particularly, utilize the right half of the body, especially the right visual field which is controlled by the left hemisphere. Thus, Bannatyne suggests the evolutionary changes in man have biased the male toward greater interhemispheric integration and females to left hemispheric dominance with a resultant advantage in verbal skills.

While the first and the third hypotheses explaining the sex differences in reading may be tenable (they have not been proved or disproved), it is the second theory which provides some possibility of giving the educator clues as to variables he can change. Social determinants are far more malleable than genetic determinants.

Intelligence

This dimension of individual differences has variously been labeled as intelligence, capacity, potential, and expectancy. It is often invoked to indicate the differences *between* children in terms of their maximum expectancies—both in rate of learning and in level of achievement at a point in time. While there is, and can be, some theoretical discussion as to the degree of "thingness" the term should be given, it is nonetheless of practical value in aiding in the determination of realistic goals or expectancies for children.

Two methods are commonly used in expressing intelligence. The first method utilizes a quotient or ratio figure to obtain what is commonly called an "IQ score." This procedure provides a measure of differences between persons of the same chronological age. Chronological age is treated as a constant. While this method does identify the broad concepts like "superior" or "retarded" rather well, this type of information may not be the most propitious for the day-to-day decision-making process necessary in the classroom. A second method of expressing differences in potential is through the concept of mental age. The use of this approach provides a comparison of differences without chronological age being fixed. By this method, the standard becomes the typical performance of an "average" child with a given chronological age and gives some indication of level of functioning. This approach provides the teacher with a technique for

judging the appropriateness of instruction for a given child. While this second method has the advantage of setting theoretical expectancies for achievement, it ignores several other important traits of the individual.

A distinct disadvantage of describing this dimension of individual differences by either method outlined above is that it tends to lead to a false assumption that intelligence is a singular trait; and thereby, the concern should be with inter-individual deviations. Actually, intelligence is composed of many components or cognitive abilities and is subject to inter- and intra-individual differences.

Cognitive Abilities

One of the more persistent sources of confusion in the field of psychological measurement has resulted from the failure to define the relation between specific mental abilities and general intelligence. Scores on separate components of intelligence tests are usually substantially correlated; yet the existence of persons who show much greater competence in one area than another has long been noted. Earlier in the century, Thurstone (*22*) declared that IQ was not a homogeneous trait. He thought intelligence could better be defined as a cluster of primary abilities, and an individual's intellectual assessment could better be illustrated by a profile of scores rather than by the designation of a single score. Guilford's (*13*) more recent work supports and expands Thurstone's original conception. Guilford believes there are many underlying dimensions which contribute in varying degrees to a wide variety of intellectual skills, and that these factors can be identified and classified. Such identification and classification would lead to notable intra-individual differences in intelligence.

Teachers in the course of their classroom experience come across many children with discrepant abilities. When these discrepancies within a person become extreme, the individual may be termed "an idiot savant," meaning persons who are well known for their phenomenal calculating feats or the ability to remember total musical scores while being unable to learn to read. Though it is more typical to find the cognitive abilities of children developing at a fairly even rate, it is not unusual to discover youngsters with a high mathematical ability or a very favorable artistic aptitude who are afflicted with an apparent "block" when it comes to printed verbal material. Other discrepancies could easily be identified. Any person who has ever

administered an individual intelligence test like the Wechsler or Stanford-Binet to children can easily identify cases where pupils achieve a highly similar total score, but yet an analysis of the items passed and failed reveals that the similar score was achieved through markedly different abilities. Seemingly different intellectual abilities were functioning to achieve the global summary score.

Cognitive Styles

Recent investigations by students of cognitive style have been concerned with the problem of determining what type of orientation toward the environment facilitates the cognitive processes and what type does not. To avoid misunderstanding between the areas of cognitive abilities and cognitive style, one distinction will be offered. Researchers in the area of cognitive abilities are attempting to discover a minimum number of functions to account for the covariation of mental abilities, while the students of cognitive style are attempting to study the processes underlying the primary mental abilities.

Witkin, *et al.* (*27*), found individuals are of two types in their orientation to the environment. One approach is field-independent; the other is field-dependent. The field-independent oriented persons are basically free from irrelevant and distracted perception. The field-dependent oriented individuals are impulsive and cannot separate an item from its context; thus, they have a low ability to discriminate. Kagan (*17*), using different terms for the same categories (field-independent–analytical; field-dependent–relational), found essentially the same type of behavior. An analytically-styled person is objective and more able to control his environment, but a relational-styled individual is impulsive and subjective. He sees his environment in a global way. Kagan (*16*) found a positive relationship between reading behavior and the relational style of learning, and this finding was verified by another investigator among children with a reading disability (*21*). Teachers of reading most likely could produce better readers if they would train children to be less impulsive in responding.

Enough evidence is available to support the contention that children differ in their approach to learning experiences and that a learner may be one of several different types. Each type of individual will learn most effectively when taught by methods which take his type into account. This dimension of cognitive preference is another variable that needs to be accounted for in making provisions for individual differences.

Interests

A brief conversation with the children in virtually any classroom will quickly reveal a variety of interests in both range and kind. Normally, the older the children are, the greater the range of interest is, because interests can develop commensurate only with the quantity and quality of experience. Without experience, there cannot be interests. Tyler (*23*) makes a major point of encouraging the use of interests as one of the features in planning for individual differences.

Too often in the reading situation all of the children are exposed continuously to the same diet of material. Olson (*19*) declares that the solution to the diversity of interests is through "self-selection." In this approach the teacher permits the children to seek and select their own reading materials. Olson and other advocates of this system contend this approach will also result in children reading at their instructional level. However, Fleming's (*10*) recent study casts doubt on the efficacy of a system of self-selection. Using a fifth grade population, Fleming explored the relationship between pupils' reading levels and their choices. Low positive correlations were found, but they hardly give strong practical support to a system of attending to individual differences on the basis of self-selection.

Cultural Background

It is no secret that the educational system is built around middle class values and is usually run by middle class teachers and administrators; nor do we need to apologize for this fact. Perhaps what we do need to do, though, is follow Plato's admonition to "examine thyself." An *a priori* assumption of many teachers is that the classrooms are composed of persons being socialized into the society of which he, the teacher, is a member. He anticipates among the youngsters a similarity of extra- and preschool experience and a comparability of these experiences with a rather amorphous national norm. In many instances these assumptions may be justified, but there are many significant exceptions. Sometimes the entire class is quite consistently different in background from that of the teacher and the "average class;" other times only specific individuals differ markedly.

Among the many factors influencing the development of the child, one must recognize the effect of the child's environment, the people with whom he associates, the sounds and words that he hears, and the places he has been and seen. The extent to which the child experiences these things will be primarily determined by the home and

family of which he is a member. The home environment in turn is greatly influenced by the social class status, economic level, and cultural background of its members. Not only will socioeconomic class often determine the child's aggressions, motivations, and interests but "studies repeatedly show that the home is the single most important influence on the intellectual and emotional development of children" (*4*). Other studies have quite clearly indicated that the relationship between socioeconomic class and achievement is higher than the correlation between intelligence and achievement (*11*).

Vilscek (*26*), in 1964, replicated the early mental age studies of the 1930's (*12, 18*) but added the dimension of socioeconomic class. Her findings reinforced the previous studies but indicated the functional relationship between socioeconomic and mental age: the lower the mental age, the higher the socioeconomic level must be for children initially learning to read; and conversely, the lower the socioeconomic level, the higher the mental age needs to be. The concept of "cumulative deficit" could have been a corollary from findings such as these.

Other critical areas which may be affected by cultural variations are the following: amount of language experience; dialect; multilingualism; proportions of verbal to nonverbal expression of ideas; experience with abstractions; interests; and factors involved in motivation, such as, types of reinforcement, values and attitudes to school, and the effectiveness of immediate and deferred reinforcement. The implications of studies in these areas for instruction remain to be developed in practical environments.

Reading Achievement

Differences in reading behavior are affected by all the characteristics of individual differences: normality, variation, covariation, and velocity. Typical reading differences in a heterogeneous classroom could be similar to the diagram represented in Figure 2. If we assume Figure 2 represents a typical third grade classroom, we see that only 12 of the 30 pupils read "at grade level" and nine pupils read above and below grade level. This figure describes only the normality and variation of the class members; still each pupil has reading skills which covary and an individual velocity system which must be considered. It is precisely situations like this one that necessitate a discussion of the practical administrative matters considered in this volume. Decisions must be made constantly by school administrators and teachers as to how to cope with these variables.

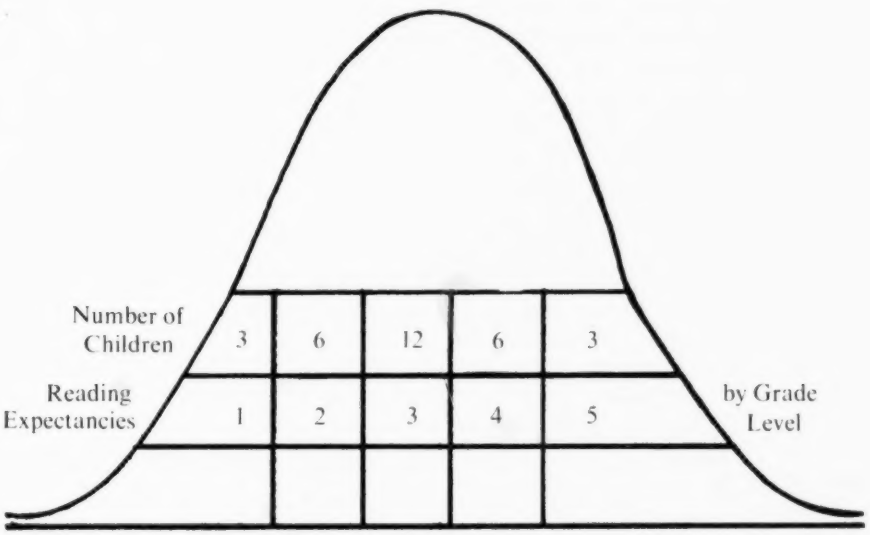

Figure 2. Example of the range and grade level expectancies in a typical third grade classroom.

If the professional literature is any indication, the principal concern in reading and its related areas has been with factors of how one child differs from another. A more significant, and less explored, area is the way an individual reader differs within himself. The most generally used concept of intra-individual differences in reading is the "expectancy level discrepancy." This discrepancy is closely related to the common comment that a person is not "reading up to his capacity." More formally, it is a measure of the difference between the current level of reading achievement and the inferred potential (with corrections for measurement errors). Many important instructional decisions can and should be based on an analysis of this type of discrepancy. For example, if a youngster's performance level is much below his class, though quite in keeping with his potential level, the teacher may seek simply to maintain the potential-achievement relationship while modifying the surroundings. If the potential-achievement discrepancy is significantly large, the teacher must plan for decreasing this difference by bringing achievement more in harmony with potential. This type of analysis concerning level and potential is of general classroom importance.

Empirical data are not abundant on the variation of intra-individual differences in specific reading skills. Yet the downfall of many a grouping plan in reading rests on the disregard of deviations in skill within the readers themselves. When divisions are made on the basis of a generic score, the variations between and among pupils on specific reading skills redistribute themselves after the initial grouping. Any grouping pattern is subject to the covariation of skills, and the instruction within a given pattern should attend to those differences.

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HELEN N. DRISCOLL

DENVER, COLORADO SCHOOLS

2. In-Class Grouping

THE CRY OF administrators and teachers everywhere is, "We must recognize and meet the individual differences of our pupils." The demand for more and different materials is prevalent, and to some teachers a greater quantity and variety of materials seem to be the answer for meeting the individual differences of pupils. Another statement made by many teachers is that fewer pupils per class would allow the teacher to really meet individual needs.

Today the market is flooded with all kinds of teaching materials. More money is available to purchase materials than at any time in the past. Can teaching machines, programed approaches, games, published charts, television, basal reading programs, skill kits, etc., teach the skills that pupils need? The question which immediately comes to mind is, "Do the materials do the teaching or does the proficient teacher use the best materials to aid in teaching the skills?" The answer, based upon observation and experience, is obvious. None of the mechanical aids can do more than supplement the effectiveness of the teacher's ingenuity to use the materials to meet the individual needs of pupils.

Research has not, as yet, shown us that an ideal number of twenty, twenty-five, or thirty students in a class necessarily creates a better learning situation. Even in primary grades, where team teaching is used, three teachers may have ninety students. The plant, in such a situation, allows for flexibility with movable walls and adjustable space. However, many occasions arise when all pupils and teachers will use the same large area at the same time.

It is true that a clinical situation calls for small groups of six to eight or even a one-to-one relationship between teacher and pupil. But we are concerned here with a regular classroom situation.

In most schools pupils are grouped by grade levels according to chronological age. They are again grouped into classrooms either homogeneously or heterogeneously. The basis for these grouping plans is mental ability of pupils as measured by a group intelligence test and occasionally by individual intelligence tests. These tests indicate only one factor about the pupils—they have assessed the measure on a given day of what the pupils have been able to learn in

the past. The homogeneously grouped class has a narrower range of ability, supposedly making the teaching of these children easier because they are more alike. However, the intelligence test does not include other factors such as reading level, language ability, and interests and abilities in other areas.

If the classes are heterogeneously grouped, a wider range of learning abilities of pupils is prevalent. But again, the same factor is considered. The discrepancies between pupil ability as measured by a group intelligence test and pupil achievement are great. Clymer has stated the problem well. He says, "The range of ability—that is, the spread from the best reader to the poorest reader—is two thirds of chronological age of the usual child in that classroom. An illustration will make this clear. As children in a fourth grade classroom are about nine years old, we take two thirds of nine and find that the spread at Grade Four is six years. Usually half of this spread is above grade level and half below. So in our hypothetical fourth grade we would expect to find some students reading as low as first grade level and others as high as seventh grade" (*3*).

What is the responsibility of the classroom teacher to meet the individual learning needs of the pupils in his class? There are diagnostic tools which can be used to help the teacher determine the functional reading level of each pupil. Most publishers of basal readers have prepared reading inventories which can be given and evaluated in a short period of time. Phonics surveys and tests of paragraph meaning, word meaning, and rate are available. The teacher can learn the strengths and weaknesses of each pupil. Individual reading inventories are more comprehensive and probably would not need to be given to each pupil. The individual inventory can be given when the teacher is uncertain of previous diagnostic results or when doubts arise about the pupil's progress. School records about each pupil are available with previous test data and comments by previous teachers. Such records should help to provide a more accurate understanding of the pupils' needs and abilities. If all of these diagnostic tools are used wisely and teacher judgment is objective, the needs of each pupil should be fairly clear.

Basal Reader - Three Reading Groups

Now that the teacher has evaluated the needs of each pupil, how does he meet them? In-class grouping for instruction is most often based on the use of basal readers which are at the approximate instructional levels of pupils. The most widely used vehicle for teach-

ing reading skills is the basal reader. The most frequently used grouping procedure is the use of three reading groups. As Spache points out, the three subgroups should each have only a few pupils, a narrow range of reading abilities, and thus reduce the planning demands on the teacher. However, there are some fallacies which occur in this type of grouping. First of all, the teacher must plan for three reading levels, each of which contains pupils who have varied interests and abilities. Secondly, most teachers fail to challenge the brightest pupils and help the poor readers only slightly. Thirdly, the three group arrangement creates the difficulty of keeping two groups working independently while the teacher is busy with the third (*10*).

The teacher can avoid some of these pitfalls by continuously evaluating pupil progress and keeping the group flexible. If a pupil meets with frustration, a change of group level, the use of other techniques, or both might be necessary. At the same time, those pupils who are mastering the skills and materials being presented should be challenged by the introduction and application of a greater variety of skills. As pupils move through the elementary school, it is the responsibility of the teachers not only to reinforce the basic skills of early reading, phonics, word analysis, and comprehension but also to enrich and extend the opportunities to use these skills.

The basal reader may be the tool used for teaching reading skills, but there are many excellent resource materials available which pupils can use to apply these skills. There are many literature books which should be available for pupils to read to develop an understanding and appreciation of different types of literature. Many reference books, well written and illustrated, can be used for research purposes. Groups using the materials mentioned would probably be formed on the basis of pupils' interests or activities related to a class unit, project, or a spontaneous class discussion.

Temporary groups are often formed for the teaching of specific skills. These groups may consist of pupils who are reading at varying levels of ability but need the reteaching or reinforcement of a certain skill. Some groups of pupils may need to learn more complex skills in order to do a research project and use reference materials. If so, the teacher should individualize the instruction for these pupils at the time the skill is needed.

Occasionally the teacher will find it profitable to work with some pupils for a short period of time on an indivudual basis.

The charts that follow show the use of time by each group during the reading period when three groups are organized for reading instruction.

FIRST DAY

GROUP I INDEPENDENT (25 minutes)	GROUP II TEACHER DIRECTED (25 minutes)	GROUP III INDEPENDENT (50 minutes)
Answer independently the four or five questions which were set to guide the reading. The types of questions: • direct recall • sequence of events or things • cause-and-effect relationships • time-space relationships • making inferences • drawing conclusions • predicting outcomes • vocabulary – what does this word mean – • as used in context?	Evaluate the previous independent assignment. Motivate and prepare the children for reading. • Relate pupils' experiences to story to be read. • Develop an understanding of the meaning of the unfamiliar ideas and concepts. • Help children to recognize unfamiliar vocabulary. – in print – in meaning – in print and meaning. • Set purposes for independent reading through questions for the selection assigned. • Ask children to list and define words that give them difficulty as they read. • Teach or review a specific reading skill in phonics, structural analysis, comprehension or study. • Assign a practice exercise to reinforce the learning.	Read the entire story silently. • Read to answer questions which set the purposes for reading. • Do independent skills assignment to reinforce a phonics, structural analysis, comprehension, or study skill which was introduced the previous day. • Start or continue to work on an independent study related to social studies, science, or literature which involves the use of reference skills, note-taking (outlining), and preparation for oral discussion or written report. • Do extended reading in library book.
TEACHER DIRECTED (25 minutes)	**INDEPENDENT** (25 minutes)	**INDEPENDENT**
Discuss and evaluate the story in light of the purposes that were set. • Help children to understand the vocabulary and the concepts that gave them difficulty as they read the story. • Teach guided rereading by giving directions to pupils to reread parts of the story to find answers to questions for specific purposes. – verify a statement or idea. – find the meaning of a word in context. – identify and discuss the meaning of figurative language. – identify the climax of the story. – read description of a character or place. – find passages which create mood of the story. – comparison of story to others previously read. Preparation for independent activities: • Teach or review a specific reading skill. • Assign a practice exercise to reinforce the learning.	Read the entire story silently. • List and define new vocabulary. • Keep the purposes in mind as they read.	

SECOND DAY

GROUP I (Reading below grade level)	GROUP II (Reading at grade level)	GROUP III (Reading above grade level)
INDEPENDENT (25 minutes)	**INDEPENDENT** (50 minutes)	**TEACHER DIRECTED** (25 minutes)
Do independent skills assignment for reinforcement of new learning. Prepare to discuss and ask questions.	Answer the questions that were set to guide the reading. Prepare for discussion. • Complete the assignment which reinforces the new learning. This could be in a workbook or teacher-made exercise. • Start or continue to work on an independent project related to social studies, science, or literature which involves the use of reference skills, note-taking (outlining), and preparation for oral discussion or written report. • Do extended reading in library book.	Discuss and evaluate the story in view of the purposes that were set. Help children to understand the vocabulary and the concepts that gave them difficulty as they read the story. Teacher uses guided reading. Some of the comprehension skills to be developed follow. • find places in the selection that explain. • find figurative language, descriptive words, climax of the story, character descriptions, etc. • compare the elements of one story to another previously read. Teach specific reading skills. Make an assignment to practice these skills. Motivate children for reading of new story or part of story. Set purposes for reading.
TEACHER DIRECTED (25 minutes)	**INDEPENDENT**	**INDEPENDENT** (25 minutes)
Discuss skills assignment. Clarify any misunderstandings. Prepare children for reading a new story or part of story. • Motivate new story or part of story to be read. Relate pupils' experiences to the concepts which need to be developed through pictures, poems, or reading aloud another short selection which will help establish the new ideas and concepts. • Introduce new vocabulary. - pronunciation - meaning as used in story - if multiple meaning word, explain other common usage of word. • Set purposes for reading through questions.		Read independently the new story or part of story assigned or do assignment for reinforcement of skills learning.

THIRD DAY

GROUP I (Reading below grade level)	GROUP II (Reading at grade level)	GROUP III (Reading above grade level)
TEACHER DIRECTED Discuss and evaluate the story that was reread in light of the purposes that were set. Evaluate the independent skills assignment. Motivate and set purposes for reading the newspaper, periodicals, or content books.	**INDEPENDENT** Reread the story to develop comprehension skills discussed during the teacher-directed period from the previous day.	**INDEPENDENT** Practice assignment on reading skills discussed during the teacher-directed period of the previous day.
INDEPENDENT Read from newspapers, periodicals, or books from the content areas in view of the purposes that were set. Answer the questions to guide the reading.	**INDEPENDENT** Practice assignment on word attack and vocabulary skills which were discussed during the teacher-directed period of the previous day.	**TEACHER DIRECTED** Discuss and evaluate the story that was reread in light of the purposes that were set. Evaluate the independent skills assignment. Motivate and set purposes for reading newspapers, periodicals, or books from the content areas.

FOURTH DAY

GROUP I (Reading below grade level)	GROUP II (Reading at grade level)	GROUP III (Reading above grade level)
INDEPENDENT	**TEACHER DIRECTED**	**INDEPENDENT**
Reading activities, games, and practice • phonics games • word games • use of tape recorder or phonograph with headsets to listen to recorded stories • workbook assignments to reinforce needed reading skills	Discuss and evaluate the independent skills assignment from the previous day Discuss and evaluate the story that was reread in light of the purposes that were set • oral reading for specifics • discussion • plan for dramatization of the story Motivate and set purposes for reading the newspaper, periodicals, or books from the content areas • relate prior experience of children to reading assignment • help children to understand unfamiliar ideas and vocabulary	Reading from newspapers, periodicals, or books from content areas in light of the purposes that were set
TEACHER DIRECTED	**INDEPENDENT**	**INDEPENDENT**
Reinforcement and review of previously taught reading skills. Discussion and evaluation of assignment to read newspapers, periodicals, or books from content areas. Motivate and set purposes for reading the new story.	Read the assignment from the newspaper, periodicals, or books from the content areas in light of the set purposes.	Answer the questions that were set to guide the reading

FIFTH DAY

GROUP I (Reading below grade level)	GROUP II (Reading at grade level)	GROUP III (Reading above grade level)
INDEPENDENT	**INDEPENDENT**	**TEACHER DIRECTED**
Read the entire story silently. Pupils who finish should do library reading.	Answer the questions that were set to guide the reading.	Discussion and evaluation of the independent assignment from the previous day. Motivate and set purposes for a new story.
INDEPENDENT	**INDEPENDENT**	**INDEPENDENT**

LIBRARY READING – TOTAL CLASS

- Teacher circulates and has individual conferences with children.
- Choral reading with the entire class.
- Story dramatizations.
- Teacher reads orally to the children.
- Children listen to recorded literature selections read by professional readers.
- Children share with the class the books they are reading.

The teacher meets with the less able group daily. These pupils need more teacher direction. They also should be given shorter independent assignments.

The average and more able groups meet with the teacher on alternate days. These students can work independently for longer periods of time at a variety of independent reading activities.

Variations in the above schedule occur when, for example, a story lends itself to dramatization. Pupils in the reading group working on the dramatization will need more time for its preparation. During the independent period some pupils can be writing the dialogue. Others work on puppets or scenery. During the teacher-directed period for this reading group, the teacher helps pupils with intonation, characterization, and sequence of events. Dramatization is an excellent way to check pupils' comprehension of what they have read.

Sometimes for class sharing children bring objects that relate to what has been read. Time should be given for these children to explain what they have brought. These are enriching oral language experiences.

The teacher can read a story, share something of his own, or show a film which would enrich the pupils' experiences and further develop ideas and concepts which were met in their reading.

A schedule is valuable, but it should never be so rigid that no leeway can be taken for enriching experiences.

Nongraded Primary

An organizational plan which proposes the elimination of the vertical lockstep grade-level labeling is the nongraded school. "Theoretically, the nongraded school permits the selection of content and materials according to pupil realities" (*5*). The plan provides for a longer primary grade span for those pupils who progress more slowly in reading. Some pupils take three and one half to four years to complete the work of the first three grades. The plan also allows for the pupil who has advanced in all aspects of his development to move more rapidly through the levels.

The class group in which each child works indicates the reading performance of children at each level, but this organization does not prescribe a standard to be achieved within a given period of time.

There are three patterns of grouping within the class which might be used in nongraded schools. One type is composed of multi-age groups, from the nonreaders to the most capable readers. However, this wide vertical spread creates complex instructional problems.

A second plan is to place together pupils who cluster closely around a single reading level. A problem encountered in this method of grouping is that the teacher must decide whether to set up groups of additional reading levels as a range in achievement develops or move pupils to other rooms.

A third method (5) of grouping includes six primary classrooms and twenty reading levels. Each teacher might have in her class as many as five levels and would need to select the materials and activities appropriate for each of these levels. To allow for pupil advancement in reading without necessitating transfer to another room, each teacher would begin the year with three levels. Then as pupils progressed, an additional two levels would be developed. These two levels would overlap the lower two levels of the next class (see below).

												Teacher F		16	17	18	19	20	
										Teacher E		13	14	15	16	17			
								Teacher D		10	11	12	13	14					
							Teacher C		7	8	9	10	11						
						Teacher B		4	5	6	7	8							
					Teacher A		1	2	3	4	5								

Pupils are considered for transfer to the next class any time they reach one of the two top levels in a classroom. The pupil who shows growth in all aspects of his development would be transferred soon after reaching the first of the two top levels. However, the child who is advanced only in reading would probably remain in that class through the two top levels, allowing him more time to develop his abilities in other areas.

The advantage of the nongraded organizational plan is that the pupil progresses at his own rate and thus meets with less frustration and failure. The plan allows for vertical advancement as well as horizontal enrichment. Teachers learn to know their pupils better and, therefore, meet their individual needs more effectively.

This writer, from limited observation of the nongraded primary in operation, questions the use of the organizational plan unless the teachers involved understand the philosophy of the plan. It is imperative that the teacher be cognizant of the breadth of each pupil's needs and that both the vertical and horizontal problems be met. It is possible to group pupils within a traditional school organization and meet individual needs as long as teachers are philosophically committed to recognition of individual differences.

Team Teaching

Team teaching is an organizational plan designed to provide the advantages of departmentalization and also retain the advantages of the self-contained classroom. It requires cooperative planning and instruction among two or more teachers. The team of teachers may be assigned at a particular grade level or may work with two or more conventional grade levels.

The advantages of team teaching are most pronounced in the grouping of children. For illustration purposes let us suppose that in a school there are three conventional classrooms each of which contains thirty pupils. Each teacher would have three reading groups. However, if these three teachers form a team with ninety pupils, eighteen might well be advanced readers and comprise one reading group. Twenty-seven pupils, operating at least two reading levels below their grade level, would need corrective reading and could be redivided into two subgroups. The remaining forty-five pupils, reading from approximately one reading level below their grade to two reading levels above, could comprise three further groups. This sort of organization makes it possible for three teachers to handle six reading groups instead of nine. In addition to cutting down the number of groups each remaining group is more homogeneous.

Another advantage to team teaching is that of greater flexibility among reading groups. Pupils can be moved at any time to another group within the self-contained group of ninety and already be acquainted with pupils and teachers. Also, three teachers who continuously observe, discuss, and diagnose pupil progress will be able to assess pupil competencies more accurately. Finally, there is the advantage of building teams around the different strengths of the teachers involved.

The disadvantages of team teaching are that it evolves into departmentalization and the team planning is ignored. Also, it is possible for one teacher on the team to so dominate the planning that the value of basing instruction on the opinion of three teachers would be lost.

Joplin Plan

This organizational plan groups pupils from several grades according to reading ability, and each teacher is assigned to teach a specific reading level. The pupils are assigned to a particular classroom for reading instruction. All reading instruction, for the grade levels involved, would take place at the same time each day.

A number of criticisms of this plan seem evident. The measured reading ability of pupils in a classroom may be fairly close; but because of the wider age distribution, the interests and skills range would be great. Therefore, intra-class grouping would be necessary. The number of teachers involved would determine the number of reading levels and, thus, the number of levels available for pupil assignment. It is questionable as to how sound it is to assign pupils to a teacher for reading instruction when that teacher does not work with the pupil in any other aspect of the curriculum. The time allotment for reading instruction becomes extremely rigid because the pupils would have to come to reading at a specific time each day and leave forty to sixty minutes later. This arrangement would tend to make reading an isolated subject rather than an integrated part of the total curriculum.

Individualized Reading

Based on Willard Olson's observations, the principles of individualized reading are seeking, self-selection, and pacing. The pupil seeks wider knowledge in many areas of interest, selects his own reading material, and reads as much or as little of the material as he is able or desires to read.

The procedure for using this organizational plan would be as follows:

1. General directions are given to the class as a whole.
2. There is a period of time for reading of self-selected materials.
3. During this period of time, teacher-pupil conferences are held.
4. Temporary groups are formed for the teaching of needed skills.
5. Occasional periods of time are set aside for pupils to share their reading experience with the whole class.

It takes a very skilled, creative, and knowledgeable teacher to organize himself and his pupils to use individualized reading effectively. The teacher needs to have many more reading materials than in a basal reading program. A knowledge of trade books and resource material is essential. Not only are many varieties of materials necessary but materials at many readability levels are also needed. Materials for teaching reading skills from the basic beginning skills to the more complex comprehension and study skills should be prepared by the teacher or made available for pupils from workbooks or other skills books.

The teacher also needs to prepare workable forms to be used for keeping a record of each pupil's intelligence tests, formal and informal reading tests, reading level, interests, attitudes, weaknesses, and strengths. He also needs to record each pupil's assignments and completion of tasks, techniques which work best for each pupil, and a cumulative list of his reading.

A time schedule needs to be planned so that individual conferences can be held with each pupil at least once a week and preferably more frequently. Time must also be available for both individual and temporary group teaching of skills as the need arises.

As has been stated, it takes a creative and flexible teacher to do all of these things well. He must be cognizant of the sequential development of skills and recognize when the optimum time arises to present particular skills to a group of pupils. One area which suffers more than any other is the development of comprehension. How can a teacher be familiar enough with the myriad of books to ask comprehension questions which challenge each pupil?

Care needs to be taken so that this plan does not degenerate into a free or recreational reading program.

Combination Individualized– Basal

Cannot the teacher better meet needs by combining the advantages of basal readers with three reading groups and individualized reading? The basal reader could supply the continuity of teaching reading skills and give a basis for a common reading experience for a group of pupils to discuss. During the individualized part of the reading program the teacher would be free for individual conferences. During this time she could evaluate a pupil's comprehension, vocabulary, and oral reading. She can assist pupils individually or form temporary groups for skills teaching. This combination of two organizational plans provides time for the teacher to assist the accelerated reader as well as the pupil with remedial problems.

Conclusion

The discussion throughout this paper has been directed to the fact that no organizational grouping plan meets the individual needs of pupils unless the teacher is constantly evaluating pupil progress. Teachers must be aware of the learning needs of each pupil and make

the necessary continuous adjustments to meet these changes. Flexibility, not rigidity, is the key to any type of grouping.

No one pattern of organization, no one set of materials or techniques will meet the individual needs of all the pupils in a classroom all the time. The thesis of this paper, therefore, is that the knowledgeable, skilled, interested teacher adjusts his organizational pattern, materials, and techniques to the best use with his pupils. Combinations or organizational plans, a variety of materials, and the use of proven techniques are employed by master teachers to meet individual differences.

It is the responsibility of the administrators, supervisory personnel, and teachers to establish the criteria for evaluating the effectiveness of organizational plan based on sound research design. The list of criteria for evaluation of an organizational plan might well include the following suggestions.

The Criteria

1. Is the plan administratively feasible?
2. Can the plan be understood by teachers, pupils, their parents, and the community?
3. Does the plan support what we know about the learning processes?
4. Can the results of the use of the plan be measured accurately?
5. Is there evidence that the pupils have learned more effectively as a result of the grouping?
6. Does the organizational plan include provision for individual differences of pupils and teachers?
7. Does the plan increase the teacher's effectiveness?

There are numerous inter-class grouping plans, but the success of reading instruction rests with the classroom teacher and his ability to meet individual differences through diagnostic teaching and his use of effective intra-class grouping.

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DONALD C. CUSHENBERY

UNIVERSITY OF OMAHA

3. The Joplin Plan and Cross Grade Grouping

ONE OF THE MOST complex problems of American education since the establishment of universal public schools is grouping pupils for maximum educational benefits. One of the most popular plans advanced for fulfilling this need is intergrade ability grouping of children in the middle grades for reading instruction. This plan, popularly called "The Joplin Plan," has achieved national attention, particularly concerning its past fifteen years at Joplin, Missouri, and other cities where the plan has been instituted.

The purpose of this paper is to provide 1) a brief outline of historical movements which led up to the establishment of the plan as it is known today, 2) a complete description of the plan as it is used in Joplin, 3) a survey of various studies which have employed the use of this type of grouping, 4) a discussion of the advantages and possible limitations of the plan, and 5) a summary of the total presentation.

Historical Background

One of the first attempts to solve the problems of the individual needs of pupils involved the use of the "Monitorial System" which had its origin in England where teachers regularly instructed up to 100 pupils, while smaller groups were taught by tutors. Later American writers, such as McGuffey and others, authored clearly defined series of classroom materials designed for, and taught on, distinct grade levels. During the early part of the nineteenth century most public elementary schools were organized by levels or grades from one to eight, and pupils were grouped in accordance with their ability to meet grade standards. As individual intelligence tests and other instruments were developed in the early 1900's, it became readily apparent on the part of administrators and teachers that a wide range of mental and academic abilities existed in the typical heterogeneous classroom. Pupils were found to be vastly different in growth rates, intelligence, socioeconomic backgrounds, and emotional development.

Because of these findings, there was a very distinct impression generated among teachers and administrators that grouping of children for various instructional purposes was vital. School officials began accordingly to formulate different grouping plans.

One of the first school systems to make use of an intergrade grouping plan was the Detroit, Michigan Public Schools System where different studies were conducted in 1928 with the use of the vertical grouping plan, an adaptation of the original Detroit XYZ plan (*12*). Under this procedure, pupils from various grade sections with similar intelligence levels were grouped for instructional purposes.

The San Francisco Schools instituted what was known as the "circling" plan in the 1930's. Under the "circling" plan, certain pupils in grades four, five, and six were placed in reading classes on the basis of ability, regardless of their homeroom grade classification. By 1946 the plan had been discontinued in many schools since there appeared to be some doubt that the plan was more advantageous than other curricular patterns.

The intergrade ability grouping of children for reading instruction was initiated in four elementary schools of Joplin, Missouri, in 1954, and since that time all of the public elementary schools in the city have instituted the plan as a part of the instructional program. Various school officials from all sections of the United States have investigated the advantages and limitations of the plan as a result of articles which have appeared in the *Saturday Evening Post* (*14*) and the *Elementary School Journal* (*3,5*). Since 1954 a number of research studies have been completed which have been designed to reveal the general effectiveness of the Joplin Plan to different schools. A review of several of these studies is included in another section of this paper.

Description of the Joplin Plan

Several school systems are in the process of using variations of the plan for grouping for reading instruction as it is used in Joplin. The description which follows applies to the procedures which have been observed by the writer in his visits in various Joplin schools. Additional information has been gained through interviews with Cecil Floyd, assistant superintendent of schools, and the various principals and selected teachers in the school system.

The Organization of Instructional Groups

Near the close of each school year the principal and teachers of grades four, five, and six of each elementary school in Joplin conduct one or more conferences at which time the pupil personnel for each of the reading groups (which represent reading levels from three through eight for the following September) are tentatively selected. These groupings are based primarily on scores from reading achievement tests which have been administered at the close of the year, with particular attention given to the reading level of each pupil as reflected by these tests. Additional consideration is given to each pupil's score on group intelligence tests as well as to teacher judgment of general social and emotional factors and the academic status of individual pupils in other content areas. Pupils who are new to the various schools are generally given an informal reading inventory and a reading achievement test. Placement is based on the results of these tests along with the professional judgment of the building principal.

A number of practices are followed in addition to the procedures outlined above. No fourth grade pupils are placed in seventh and eighth level classes even though certain pupils may demonstrate ability to perform at these levels. "Academic pressure" appears to be too great for fourth grade pupils in the upper reading level classes. An additional reason for this practice is the feeling that the majority of the older pupils in the sixth grade have had experiences which the average fourth grade pupil has not encountered. The groups are kept flexible at all times; and all teachers, in consultation with the principal, are instructed to move pupils from one group to another if such a transfer seems to be in the best interest of given pupils.

Even though this type of grouping arrangement is used in all schools in Joplin, it appears to be more effective in the larger buildings where at least four to six teachers can be involved in the program.

In buildings where there are two fourth-grade teachers, two fifth-grade teachers, and two sixth-grade teachers, it is possible to establish six reading level classes from third through eighth. Under this arrangement each teacher is responsible for a single reading level class during a given reading period; whereas in buildings where there are as few as three teachers for the middle grades, it is necessary for each teacher to instruct as many as two reading level classes during a reading period. Teachers are often assigned to teach reading level classes other than at the grade level of their homeroom.

One will occasionally find a sixth grade teacher who has been assigned a fourth level class, while a fourth grade teacher has a sixth level class assignment. Since there is a feeling that all of the teachers should be acquainted with the skills and abilities which are taught at the various reading levels, teachers are frequently transferred from one level teaching assignment to another from year to year.

The Materials and Methods Used in the Program

The administrative officials of the Joplin schools believe that a sound developmental reading program is based on the use of basal reading materials. Their viewpoint is that a modern series has been carefully constructed to provide a sequential development of reading skills. A number of leading series of basal readers are available for use in the program. The series used in any particular class in any given building is based on the teacher's personal preference with the approval of the school administrators. Care is taken to select materials which have not been used by any of the pupils at any previous grade level. Since large numbers of books from many series are circulated throughout the system on the basis of need, each principal is asked to keep very accurate records of the number of books for each level from the basal series which have been placed in his building. Duplicated lists of the materials are made available to the various principals so books and other aids may be taken from building to building as the need arises.

Workbooks are not used in the middle grades except by the teacher. There is a feeling that each teacher should prepare her own practice sheets which are to be used by the pupils in her class.

The Recreatory Reading Period

A twenty-minute recreatory reading period is scheduled daily in the opposite half-day from the reading level class. In one school, for example, the reading level class is held at 10 o'clock each morning with the recreatory reading period scheduled at 3 o'clock in the afternoon. All pupils remain in their homerooms for the recreatory period and are not grouped in any manner. Children are given a chance to do wide reading on their interest and ability levels in a relaxed atmosphere. Since there are no central libraries in any of the elementary schools, a large number of attractive and interesting library books are provided in each room. Some of these books are interchanged from room to room. A few school officials borrow books

from the public library for use by the pupils. Illustrative of the kinds of books available in the room libraries are the *American Adventure Series*, *American Heritage Series*, and the *Childhood of Famous Americans Series*. A large percentage of the pupils participate in the Missouri State Reading Circle Program.

The recreatory reading period is an important segment of the total reading program since it provides a time when all children, regardless of reading level, can come together in a relaxed situation and enjoy reading in many different areas.

The Procedures Used for the Measurement of the Pupils' Reading Achievement

Several procedures and techniques such as informal reading inventories, standardized achievement tests, and the informal observations of teachers and principals are all used to help determine the reading achievement levels of pupils. A careful inventory is made with respect to the competency of each pupil in such areas as word attack, reading for different purposes, and summarization of various reading materials.

The Reading Report Card

A special report card has been constructed for use with those pupils who are involved in the Joplin Plan. The four major sections of the card are entitled "Oral Reading," "Silent Reading," "Word Skills," and "Recreatory and Supplementary Reading." Some of the items included in the "Oral Reading" section are 1) reads with ease and fluency at a satisfactory rate on his present level; 2) reads too slowly with a tendency to omit or substitute words; 3) needs more training in projecting the voice in expression; and 4) has a tendency to read too rapidly, omits or mispronounces words, and tends to ignore punctuation marks.

The section dealing with "Silent Reading" contains some of the following items: 1) reads at a satisfactory rate with meaning and understanding on his present level; 2) has made definite improvement in ability to remember and relate what has been read; 3) has difficulty in concentrating in silent reading, which causes rather poor understanding; 4) needs to adjust rate of silent reading to type of material being read; and 5) has some difficulty in stating main ideas of a paragraph or article and in interpreting implied meanings.

The "Word Skills" portion lists several of the following notations: 1) has a well-developed understanding of and is able to use most

skills which apply to word attack on his present level, 2) has too great a tendency to guess at words instead of using word skills which have been learned, 3) has well-developed dictionary concepts and skills and makes excellent use of this knowledge, 4) is making more use of the dictionary but still needs considerable training, and 5) is acquiring the basic vocabulary needed for his present level.

Some of the sentences entered in the "Recreatory and Supplementary Reading" section are 1) number of books read this nine weeks, 2) does a large amount of reading with meaning and understanding on a variety of subjects, 3) is showing greater interest in independent reading, 4) needs to read a greater variety of materials, 5) needs to develop more interest and spend more time reading, and 6) could profit from using the public library more frequently.

Each reading level teacher is asked to place a check beside those items in each area which applies to given students. There is also a place for teacher comments and suggestions.

Recent Studies Involving Intergrade Grouping for Reading Instruction

Shortly after the article by Floyd (*5*) a number of school officials started to experiment with the Joplin plan of grouping in their respective schools. Several significant studies have been reported in different journals and are summarized in the following section.

A study was completed in 1958 at the Burke Elementary School in Chicago and reported by Bernard (*1*). Pupils in grades six, seven, and eight were placed in various reading classes each school year on the basis of reading achievement as reflected by the results of standardized tests. According to Bernard, the median reading score of the school went from 6.3 to 8.3 during the three years the grouping plan was in operation. The investigator also reported that the teachers were particularly pleased with procedures because even the slow children made good progress and some pupils who had been difficult behavior problems showed noticeable improvement.

An additional investigation which showed favorable results for this type of grouping was one reported by Hart in 1959 (*6*). The faculty of an Oregon elementary school made a very careful analysis of the achievement test results of the pupils in the middle grades and discovered a very wide range of reading achievement in evidence. The staff and principal devised a plan whereby each of the nine teachers would assume the responsibility for one or two of the instructional

groups for a block of time, eighty-five minutes in length, at which time the teaching of language arts, reading, spelling, writing, and English was undertaken for each of the ability groupings. The teacher for each group used the developmental approach to the teaching of reading. An analysis of achievement test results gave evidence that the experimental groups gained approximately ten months over the results registered by the pupils using the conventional plan the previous year. The investigator felt that the results of the study offered some supporting evidence for those persons who feel that intergrade grouping for reading has some merit (*6*).

Morgan and Stucker (*9*) designed an investigation in which the purpose was to see if the Joplin plan of grouping for reading instruction would result in significantly superior results where the teachers had been randomly assigned to experimental and control groups and where sex, method, measured intelligence, and initial reading ability had been controlled.

Ninety matched pairs of fifth and sixth grade pupils were used as subjects. Alternate forms of the *Durrell-Sullivan* and *California Achievement Tests* were used for pre- and post-test purposes. The researchers concluded that the data from the study supported the idea that the Joplin Plan is a more effective plan of grouping than the conventional plan followed in self-contained classrooms where pupils have wide ranges of ability in reading.

In another study, Ernest L. Dominy (*4*), principal of West Main Elementary School, Lancaster, Texas, found the results of his study were similar to those of Morgan and Stucker (*9*). During the second week of school in the fall of 1958, achievement tests were given to the 278 pupils in grades four, five, and six to determine the reading ability level of each pupil in reading. Nine groups were formed on the basis of the test scores with each of the nine teachers assuming the teaching duties of a given group for a fifty-four minute period which was held during the same time in the morning for all sections. In order to capitalize on the wide range of interests of the various students, many new materials were purchased.

After four months, the average reading gain for all groups was 7.2 months with 113 pupils showing an improvement of eight months or more (*4*).

Ramsey's (*10*) study which employed the use of the Joplin plan with pupils in Logansport, Indiana was conducted from 1958 through 1960. During the period, the investigator was interested particularly in seeing what results might be obtained by using the "Joplin Plan" in two schools of different sizes.

The Stanford Achievement Test was administered in early October of 1958 and 1959 and the results were used as the basis for dividing the fourth, fifth, and sixth grade children in two schools into seven different reading level classes.

Achievement test results indicated that the intergrade grouping program was effective in producing expected reading gains at all three grade levels. The data from the study reflected the fact, however, that pupils in the upper intelligence levels profited much more from the plan than did those in the lower intelligence levels. The researcher reported that the responses of both teachers and children to a series of questions indicated a unanimous approval for the plan from both groups.

In yet another study, Ramsey (*11*) established three groups of children who were matched with respect to a number of variables and were instructed by three teachers whose abilities were judged to be relatively equal. One teacher used the Joplin plan approach; another, the individualized method; and the third followed the conventional three groups-within-the-classroom procedure. The pupils in all of the groups performed at approximately the same level. The investigator was of the opinion that the teacher impact on an individual group was of more importance than the nature or kind of grouping procedure employed.

Rothrock (13) concluded a similar study in McPherson, Kansas, in which he compared the advantages and limitations of three methods of grouping for reading instruction: intergrade ability grouping, self-contained classroom instruction, and the individualized approach. The researcher used 186 subjects who were enrolled in the fourth and fifth grades. Materials used, size of classes, socioeconomic background of the pupils, and the experience and training of pupils were matched as closely as possible. Tests A and B of the Iowa Every Pupil Tests of Basic Skills were used as pre- and post-tests. At the conclusion of the study the investigator noted that when good teaching was done with appropriate materials and where children were stimulated, great improvement could result with any one of the three plans studied (*13*).

Kierstead's study (*8*) in Orwell, Vermont, in 1959 showed results which were somewhat different from those of the investigators mentioned previously. Two groups of pupils from grades three through eight were chosen as the subjects. One group was taught within the regular classroom in small groups while the other pupils were directed to reading classrooms on the basis of reading ability and teacher observation, regardless of grade level. When the study was

completed. Kierstead reported that no significant difference in reading comprehension and vocabularly skills was noted when the groups were equated by the composite scores of the Iowa Test of Basic Skills which was administered to all children who had participated in the investigation. As one conclusion of the study, the investigator opined that ability grouping did not remove the need for further attention to the individual needs of pupils and that ability grouping was acceptable to both parents and students when the proper communication was established between the home and the school.

One of the most recent investigations was conducted by Carlson and Thompson (3) in which a comparison was made of the amount of reading growth which was attained by 129 pupils in grades four, five, and six who constituted an experimental group using the Joplin Plan procedures and 121 pupils in the control group using the conventional within-class, three-group approach. The mean intelligence quotients for the pupils in the experimental and control groups were approximately the same. Alternate forms of the California Reading Test were given as pre- and post-tests. Test results indicated that pupils in both the experimental and control groups registered gains of more than one year in reading vocabulary, reading comprehension, and total reading. The vast majority of the pupils and parents approved of the plan; only three parents of children in the experimental group wanted the Joplin Plan discontinued.

The writer is aware of numerous studies in the midwestern area which have not been reported in the literature. The results of the vast majority of these investigations appear to indicate that there are advantages as well as limitations to the plan. These factors are discussed in the section which follows.

Advantages of the Plan

In light of the conclusions of the studies which have been described previously, along with the observations and research of the writer, a number of possible advantages might be claimed for this method of grouping for reading instruction.

One of the chief advantages appears to be that the pupils are placed in reading level classes where success is *possible*. (Frustration is generated when a pupil in the conventional class is forced to read in grade level books when his reading level is two or more levels below his grade level.) Nothing breeds success like success, and there appears to be ample evidence that the plan provides for this type of environment.

The teacher is able to concentrate her efforts on one group of pupils during a given reading period and thus is able to be more thorough in her approach. With the use of the Joplin Plan she is able to give adequate time to the pronunciation and definition of new words, readiness for a story, silent reading, oral reading, and follow-up activities.

The writer has observed that the pupils at Joplin have an intense interest in reading and read an unusually large number of library books. A high percentage of these children participate in the activities of the Missouri State Reading Circle and read many books found in the public library.

This plan of grouping challenges children to improve reading skills and move to the next higher level. A fourth grade child, for example, feels a great amount of pride and satisfaction when he is able to participate in a class with sixth grade pupils.

The studies of Bernard (*1*), Hart (*6*), Morgan and Stucker (*9*), and Ramsey (*10*) appear to give evidence that pupils exhibit a high achievement level in reading when the Joplin Plan is employed. The writer's investigation (*3*) of the plan in Joplin revealed that reading achievement in two selected schools exceeded grade expectancy by an average of 1.88 grade levels in grade four, 1.98 grade levels in grade five, and 2.06 grade levels in grade six.

Parents appear to approve of the plan as suggested by the articles written by Carson and Thompson (*2*) and the author (*3*). Advantages described by Joplin parents include "challenges child to read better," "permits child to achieve at a high level," "permits child to work at his own reading level and achieve success," and "takes care of individual differences among children and allows the teacher to extend maximum help to the pupils."

The range of reading achievement levels with which each teacher is concerned is narrowed materially through the use of this plan. In some cases it may be possible to narrow the range by as many as four levels.

The magnitude of each of the advantages mentioned previously is determined to a great degree by the amount of care taken to introduce this method of grouping into a particular school system. Maximum advantages may well result if the administrative officials move deliberately and lines of communication are kept open among teachers, parents, and administrators. The plan must be carefully explained and introduced only after a willing and open-minded attitude is established among those who have responsibilities for executing the details of the various procedures.

Limitations of the Plan

The limitations of the plan may be minor or serious in nature, depending upon how the procedures are executed by teachers and administrators.

Social pressures among a few children may be an inherent part of a grouping structure of this type. The possibility of a large sixth grade child resenting being placed in a class with a small fourth grade child exists in varying degrees; however, the observations of the writer would appear to suggest that social pressures are not significant and most pupils are more concerned with success and achievement than they are with social success or failure.

There is a danger of lack of communication between the reading teacher and the classroom teacher. Unless there is constant dialogue between these two teachers, lack of integration in a given child's academic program may well result.

Some teachers using the plan may well be lulled into thinking that they are instructing a "homogeneous" group and that further differentiation of instruction is not urgent or needed. Teachers should keep in mind that the grouping procedures merely narrow the range of reading abilities present and do not in any way negate responsibilities for further dividing for additional instruction in various skill areas.

The Joplin Plan of grouping for reading instruction is one of the most significant advances in attempting to meet the needs of children in reading instruction. The advantages of the plan appear to outweigh the limitations, particularly when the procedures are introduced in a careful, systematic manner into a given school system.

Summary

Cross grade grouping, more popularly called "The Joplin Plan," has been used in Joplin, Missouri, and many other cities with varying results. Children in the middle grades are typically grouped for reading on the basis of scores from reading achievement tests along with observations of homeroom teachers. In most instances basal reading materials are used in a developmental reading context.

The plan is merely a grouping method employed to narrow the range of reading abilities and thus to allow the teacher more time to concentrate on the needs of pupils whose reading strengths and limitations are similar in nature. One must remember, however, that the groups are not to be thought of as being homogeneous in nature. Even with the use of this plan, additional provision must be made for individual limitations of pupils.

There are a number of advantages which may be realized from the plan of grouping. Pupils are placed at reading levels where success may be realized. Reading instruction is given a new emphasis, and teachers appear to be stimulated to perform at higher levels of efficiency with the use of the plan. The results of the studies indicate that reading achievement as measured by standardized tests may be increased by using the grouping procedures. Parents approve the plan if careful lines of communication have been established between the home and school.

Some limitations may result from the use of the plan. A degree of social pressure may result when fourth grade and sixth grade pupils are placed in the same class. Unless careful attention is given to regular discussions between the homeroom teacher and reading teacher, a lack of academic integration may well result. A teacher must remember that even with this type of grouping further provision must be made for the individual reading needs of the different pupils in her classroom.

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instructional diversification. In further exploring the topic "individualized instruction," the following will be considered:

1. The evolving concept of individualized instruction
2. Individualized reading goals
3. Evaluation for individualized instruction and learning
4. Individually prescribed instruction
5. Related factors affecting instructional diversification
6. Individualizing instruction and learning within various approaches to reading and within various administrative provisions.

The Evolving Concept of Individualized Instruction

If there is an instructional characteristic common to the Dame Schools of the 17th century and to the Responsive Environment Schools of the 20th century, it is that children learn in an individualized setting. Nila Banton Smith (25) describes practices of the Dame School:

> There was no particular philosophy or psychology which guided Dame School practice. The pupils who came to the Dame were at different stages of development and small in number, and there was no particular need for attempting to mold them into one achievement level for "mass production" purposes.

Differences do exist, similarly, among children of the 20th century whether they are within nongraded or graded instructional units. Appropriate pacing per pupil in learning to read is a major concern in accommodating masses of children. These concerns about meeting pupils' needs evolved over the years and contributed to changing concepts of "individualized instruction."

Between 1910 and 1950, individualized learning and instruction were expected as adjustments were made in curricular or classroom organization. The Winnetka and Dalton Plans are examples of curricular adjustments through which a child might progress at his own rate toward goals common to all pupils. Instructional practices reflected the philosophy that expectations and goals for pupils were common but could be individually reached in different lengths of time (25). Even in the "sixties" the residue of this theory is voiced in a demand for "equal educational experiences for all," when, in

fact, the word *equal* cannot be rationally substituted for the word *appropriate*.

Educators of the "fifties and sixties" have extended concepts of accommodating learning in reading. The term *reading instruction* now comprehensively refers to teaching pupils to read as well as to directing or simulating an environment in which pupils learn to read through independent insights. As a result, the terms that represent an approach to and accommodations for pupils' needs and potentials in reading have been used synonymously to reflect totally different considerations. Included are labels such as individualized instruction in reading, individualized reading, individualized reading instruction, the individualized approach, individualizing reading instruction, personalized reading, individually prescribed instruction, and instructional diversification.

The chaotic effects of language semantics are evident as the term *individualized reading* is defined by Strang and subsequently by Lazar. Strang (*27*) concludes that "individualized reading" is a specific method of teaching reading. Lazar (*19*) states:

> Individualized reading is a way of thinking about reading—an attitude toward the place of reading in the total curriculum, toward the materials and methods used, and toward the child's developmental needs. It is not a single method or technique but a broader way of thinking about reading which involves newer concepts with class organization, materials, and the approach to the individual child.

These and other synonymous labels are confusing when one attempts to summarize and evaluate the related conflicting research findings.

For purposes of clarification in this paper, two distinctions between terminology are presented to the reader:

1. A descriptive label for a *learning approach in reading*
2. Descriptive labels of *accommodations for pupil differences within various learning approaches and within various administrative provisions*.

The term *individualized approach* will be used, exclusively, in referring to the first distinction. The terms *individualized instruction and learning*, *individually prescribed instruction*, and *diversifying instruction* will be employed as indicated in the second point of clarification.

Individualized Reading Goals

Educators are becoming increasingly aware of the utility of well-designed blueprints of desirable instructional outcomes in the language arts. Foremost among published materials that represent a design for classifying learning goals are the *Taxonomy of Educational Objectives: Handbook I: Cognitive Domain* (*5*) and the *Taxonomy of Educational Objectives: Handbook II: Affective Domain* (*18*). Two major classifications of educational objectives are designated in the taxonomies, those encompassing the products and processes of knowing (cognitive domain) and those encompassing some personalized emotional response (affective domain). More specifically, objectives that reflect the acquisition of knowledge, understandings, habits, skills, and abilities are within the scope of the cognitive domain. Cultural-literary-aesthetic appreciations, values, and attitudes are classified within the affective domain. Such classifications of goals are of significance when attempting to formulate complete inventories of learning outcomes in reading.

Supported by school funds, funds from the U.S. Office of Education, or funds from the national foundations, educators have undertaken the task of compiling reasonably complete listings of desirable outcomes for pupils in the communicative arts. Such a project, sponsored by the Ford Foundation and directed by J. Steele Gow, was initiated in Pittsburgh in 1960. One facet of this Curriculum Continuity Demonstration Project in Pittsburgh involved the compiling of progressions of outcomes for potentially college-bound students, K-12, in reading and other language arts areas. The total language curriculum committee included teachers and supervisory personnel from the Pittsburgh Public Schools as well as University of Pittsburgh faculty from the departments of education, English, speech, and linguistics. Learning goals for pupils were listed under three major headings: understandings and knowledges, habits and skills, and attitudes and appreciations. The committee proposed and isolated five subcategories of knowledges and behaviors in reading. The subcategories were referred to as learning streams and were labeled *Thought Processes, Literary Appreciations, Study Skills, Mechanics,* and *History and Function of Language*. Specifics were included under each learning stream and some attempts were made to sequence them (*30*).

The listings of pupil-learning outcomes, prepared by the Curriculum Continuity Demonstration Project committee, were reevaluated and refined to serve as pupil goal guidelines in the U.S.O.E. Project,

A Comparison of Basal and Coordinated Language Experience Approaches in Beginning Reading (*31*). Interrelationships between language outcomes were designated. The five learning streams, originally suggested, were redefined as seven channels of language transfer and were labeled as *Perceptual-Conceptual Development*, *Physiological Aspects*, *Mechanics*, *Functional Linguistics*, *Comprehension*, *Study Techniques*, and *Aesthetic Appreciations*. Definitions for the seven channels of language transfer, as quoted in the U.S.O.E. Cooperative Research Project No. 2729 Report, follow:

1. *Perceptual-Conceptual Development*—processes through which children learn to interpret and express everything sensed. Growth in this area is cloaked by past and present experiences and values; reflects cultural psychological, and biological influences; and is principally characterized by kind and degree of arousal of meaning.
2. *Physiological Aspects*—processes generally labeled as or associated with visual acuity, auditory acuity, kinesthetic acuity, posture, and visual manifestations of nonvocal dramatization.
3. *Mechanics*—processes that require use of one or more of the senses. Motor coordination, production of speech sounds, and other physiological aspects dictate the degree to which any child may or should be expected to master mechanics.
4. *Functional Linguistics*—those processes, overt and conceivably abstract, that necessitate understanding and application of linguistic symbolism and structure. Abstractly labeling or generalizing perceptions would serve as an example. Other factors of functional linguistics might include recognition and generation of sentence patterning; awareness of pitch, pause, juncture; or attention to dialectic or colloquial profiles.
5. *Comprehension*—growth in specific types of abilities including unit and global considerations. Specific areas to be considered include vocabulary, main ideas, following directions, creative interpretation, critical evaluation, etc.
6. *Study Techniques*—processes established so that learning through all six acts of language can be most effective. Study techniques may include ordering steps in perceiving, knowingvhow to utilize the differential between a speaker's rate and the author's rate, reference methods, ways to convey information to others, etc.
7. *Aesthetic and Cultural Appreciations*—processes that directly reflect growth in a pupil's sensitivity to beauty and to his literary heritage. Learning in this channel will be overtly manifested through pupil personality development, stimulation and breadth of interests, and discriminative tastes.

A design, such as one of those described for classifying complete sets of goals for pupils in reading, might serve as a grid within which a pupil's individual profile of variability could be observed and charted. But, considerations of an individualized profile of a pupil's goals in reading will be controlled by answers to three basic questions related to educational philosophy and child psychology:

1. Do pupil's possess an innate goal-patterning potential activated by need and gauged by maturation when learning to read?
2. Should children be exposed to some hierarchy of instructional sequencing while learning to read through directed or discovery techniques?
3. Can a pupil's patterning potential be predicted or consistently observed, and what effects would this possibility have on instructional sequencing in reading?

Conflicting answers to these questions are voiced in the literature. Some are based on research studies while others are the products of speculation. Indirectly, too, these views are reflected in the instructional provisions set for individualizing reading instruction. For example, use of self-directive, corrective kits such as the SRA Reading Laboratories would imply an affirmative response to the second question of sequencing in learning to read.

A positive endorsement of a child's innate goal-patterning potential is reflected in studies by Willard Olson (*21*). The terms "self-seeking," "self-selection," and "pacing" were an outgrowth of his studies of child behavior. These terms imply that each pupil, propelled by motivating forces, will seek reading experiences congruent with his levels of maturation and interest. Characteristically, through such innate behavioral responses, the child is in fact patterning his own sequential progress and reaching individualized learning goals. According to Olson, the answer to question one would be "yes."

John Carroll (*9*) makes a dual recommendation about a child's patterning or his teacher's setting of learning sequences in reading. In part, Carroll supports Olson's conclusions as he compares relationships in reading and oral language, thusly:

> One major mystery is the fact that through an experience in which the child is presented with a tremendous variety of language utterances, not sequenced, ordered, or programmed in any particular way, not even "taught" in the usual sense, the child is nevertheless able somehow to

> acquire the complex patterns of his language that linguists attempt to describe in terms of the phonology, the syntax, and the semantics of that language.

Accordingly, Carroll recommends the process of native language learning as "ideal" and questions:

> Could reading perhaps be acquired through conditions and experiences analogous to those by which the child acquires his native language, rather than by the slow, careful teaching processes which we have thought necessary?

He further states:

> When presented with a rather diverse set of stimuli, it is natural for the learner to pick out those which are easiest for him to learn and perhaps it is beyond the capability of any programmer to predict exactly what these will be.

Yet, for years children have learned to read when sequences were presented or controlled. Levels of readiness and interest tempered the child's successes in learning to read. In defense of these facts, Carroll's final recommendation remains:

> The proper strategy, from this analysis, is to present a rich diet of reading materials at every stage, but as a parallel tactic also to call the child's attention to particular items or patterns, in a systematic way, so as to facilitate his own developmental progress through spiraling levels of complexity.

Thus, through contrasting the kinds of learning periods, controlled sequencing natural patterning versus John Carroll contends that pupil progress in reading will be more adequately facilitated.

Of current significance in answering the question of how children acquire linguistic skills are studies by behaviorists such as Omar K. Moore (*12*). One aspect of Moore's work involves the creation of new educational devices that permit the learner to explore freely, to be paced at a self-determined rate, and to discover independently various relationships within a structure. The child is allowed to set his own pace, explore, and respond within a prepared environment programed into the device. Moore's work also extends to an examination of the effects of prepared school and class curricular environments on a pupil's learning at the laboratory school in Hamden, Connecticut.

The question of scientifically reliable procedures for predicting a child's innate learning patterning in reading remains, hopefully, to be answered in the future. A step toward answering this question was proposed by Holmes and Singer in their study of the substrata factor theory of reading. Singer (*24*) states:

> The major developmental hypothesis of the substrata factor theory of reading states that as an individual learns to read, he sequentially develops a hierarchically organized mental structure of interrelated neuropsychological subsystems . . .

Singer further indicates that subskills spiral toward a major skill and that these subsystems can be organized, reorganized, or mobilized. The fact that some readers achieve at higher levels may in part be attributed to a better integration or organization of subsystems. In a critical evaluation of the Substrata Factor Theory, Plessas (*22*) raised a number of questions that deserve attention. Among them are questions about the validity of test measures of pupil performance and questions about the rationale for considering reading products rather than the processes themselves. Plessas states:

> At this time there is no evidence to indicate that scores on a reading test reflect a high order of reasoning or intellectual skills in reading. Perhaps correct responses are actually a product of incomplete knowledge or partial guessing.

Quite obviously, individualized learning goals for pupils represent an educational ideal even though the procedures for goal anticipation, setting, and accomplishment remain questionable. Regardless of theoretical views related to this problem, teachers should become acquainted with the total goal perspectus in reading. A teacher cannot begin to encourage or accommodate for pupil differences and variability in reading unless she recognizes the total possible scope of maturity in reading.

Evaluation for Individualized Instruction and Learning

Learning in reading can only be individualized if teachers employ instruments and procedure for determining a child's possible and current performance levels. Appraising a pupil's attitudes toward reading is as important as appraising his reading habits and skills.

Yet, determining such a profile is useless unless teachers examine results, evaluate them, and subsequently make judgments related to individualized learning. Evaluations are important before the child is exposed to individualized instruction but are just as crucial as instruction and learning continue.

A teacher's judgments about a pupil's needs and accomplishments in reading should be based on an examination of standardized test results as well as results obtained through informal appraisal procedures. Both allow a means of measuring and evaluating how a pupil is progressing toward designated learning goals. This information should guide the teacher in initially structuring a learning environment and subsequently restructuring that environment in accord with findings from continuous evaluations.

If the information gathered about pupils is to be of value in individualizing instruction or learning, the measurement must be appropriate per pupil. Standardized and informal appraisal should be challenging to a student but not overwhelming. The degree to which present measurement instruments are appropriate for assessing reading potentials and achievements of pupils who have had diverse cultural, social, and educational experiences is often questioned. One of the many related questions is whether we are validly measuring uniqueness and breadth of pupils' reading vocabularies in standardized testing.

The instruments and techniques for appraisal in reading are being revised and improved. Numerous standardized and informal measures, currently available, deserve consideration by teachers. Leo Fay (*11*) classified the types of standardized reading tests according to their function in yielding information about what the pupil can read, how he reads, and how well he may learn to read. Respectively, the three categories of types of standardized reading tests included survey tests, diagnostic tests, and tests of reading potential. Fay describes survey tests as power tests for measuring general levels of comprehension and vocabulary, diagnostic tests as measures of strengths and weaknesses in specific reading skills, and tests of reading potential as measures of a pupil's expected level or readiness for learning. Comprehensive annotated lists of these tests appear in books and periodicals related to reading instruction.

Additional information about standardized reading tests at primary grade levels has been and is currently being evaluated in the cooperative research projects on beginning reading instruction. One experimental provision required of each cooperating project center was that selected group reading readiness tests, group reading achieve-

ment tests, and various individual tests be administered to participating pupils (7). In some instances longitudinal test data were gathered as pupils progressed for three years under varying experimental instructional conditions. Item analyses of responses to these tests by pupils who represented diverse social, intellectual, cultural, racial, and educational experiences could yield scientific implications for future test revision and construction.

To gain individual insights into pupils' reading behaviors, resourceful teachers maintain a balance between standardized and informal appraisal procedures. Informal appraisal procedures may include recording observations of pupil performance, using group or individual informing reading inventories, assigning individualized learning demonstration tasks to students, and eliciting pupils' indications of reading interests. Informal techniques, too, are important prior to and during reading instruction.

Charts, checklists, and anecdotal summaries serve as formats for recording observed behavior in reading. Individual pupil performance or attitudes in applying word recognition techniques, in employing study skills, in linguistic applications, in comprehending, and in demonstrating literary tastes can be noted and evaluated. As such subjective judgments are made, the evaluator should be guided by the criteria representing desirable progressive performance levels. Two of the problems in this type of informal evaluation are determining the consistency of a behavioral pattern and finding the time to record and analyze numerous observations per pupil.

Group and individual reading inventories such as those recommended by Betts (*4*), Strang (*27*), and Botel (*8*), are clues to grade level of pupil's reading performance. Betts and Strang suggest percentages of proficiency as criteria for assuming the level at which a student is instructed and the level at which he is able to read independently. A pupil's specific interest or lack of interest in selections that comprise the inventory will affect his level of performance on such inventories. Tests of phonics mastery, word mastery, and word recognition are separate features of the Botel Reading Inventory.

A third procedure for supplementing information about pupils is assigning individualized learning demonstration tasks to them. For example, an individualized demonstration of a pupil's skills in comprehending might be warranted. Such an assessment can be made with reading paragraphs graduated in difficulty levels. Each paragraph should be followed by a task related to a specific comprehension skill. A pupil could be asked to demonstrate skill in stating a comparison, finding a nonsense detail, or evaluating plausibility in

the selection. Any number of comprehension specifics could be assessed separately. Specific demonstration tasks should be assigned at a pupil's general instructional level as indicated by the Betts, Strang, or other inventories.

There are many ways teachers can find out what a student's interests are in reading. Kinds of materials pupils self-select are often testimonies of reading preferences. Using a technique that will result in a ranked order of pupil preferences is often advisable. Such a procedure could involve asking each pupil to create a modernistic collage of interests. To represent interests, pupils are asked to cut assorted forms and shapes from construction paper. The construction paper form or shape representing the subsequent degrees of interest should be scaled down in size. Each interest area may be labeled as forms and shapes are arranged on the collage. This activity also serves as a demonstration of a pupil's originality and associations.

A different kind of measurement can occur in computer-assisted instruction. The criterion test, as it is often called, is a go/no-go test that indicates whether a student is ready to progress to the subsequent study unit. As described by Coulson and Cogsweli (*10*), these diagnostic items yield information about the mastery of subskills the program is designed to teach. If the program contains branching elements, test diagnostic items may also reflect which remedial branch the student requires. Idealistically, the investigators predict that computerized pupil diagnosis and data processing will be possible and economically practical in schools of the next decade. Much research on the role of computer-assisted diagnosis and data processing in reading remains to be initiated.

Individually Prescribed Instruction

The term "individually prescribed instruction" implies that each child's learning environment will be set, maintained, or modified in accord with his assessed progress toward individualized reading goals. To think of individually prescribed instruction as only tutorial in type would be completely unrealistic and impractical for the pupil education of large numbers of children. The gap between population growth and teacher supply is presently apparent when elementary class sizes number in the forties.

As a function of similarities in pupils' interests, goals, and needs at a common period of time, instruction can be prescribed and in-

dividualized justifiably for groups or pairs of pupils. There are occasions, though, when a teacher must work with a pupil entirely on an individual basis. But, sharing literature, feelings, and ideas with peers is essential in the process of learning to read. Discovering knowledge or acquiring a desirable common reading habit, skill, or attitude can be operational within group instruction for pupils at varying–age, ability, interest, and reading levels. Examples of contrasts in a group approach to individually prescribed instruction for acquiring a reading understanding, commonly needed by pupils, are charted below.

PUPIL UNDERSTANDING

Exaggeration is sometimes a device for creating humor in a story.

MATERIALS

Humorous caricatures
Tradebooks that are varied in interest level and grade level

CONTRASTING APPROACHES

1. Teacher Prescribed, Initiated, and Directed

Show the children a set of caricatures. Encourage the pupils to generalize that some figures are funny because they depict an element of exaggeration. Then, give each child a preselected tradebook in accord with his reading interests and independent reading levels. Ask each to read a designated page in his book (predetermined by the teacher) that is humorous. Suggest that each pupil note whether the humor is apparent or is created with exaggerations or some other device. Give the pupils an opportunity to share their findings.

2. Teacher Prescribed, Pupil Initiated and Self-paced

Set the learning environment by making numerous caricatures and varied trade books available to the children. Permit pupils to self-select and pace themselves in

these materials when they demonstrate an interest in humorous selections. After observing pupils using these materials, encourage each child to individually share his findings. Ask types of questions that elicit insights about the effect of exaggeration in producing humor.

In both of these approaches, learning was a function of prescriptive instruction, but the teacher's techniques of controlling and directing the learning environment differed. The time at which the prescription is fulfilled in the first approach is set by the teacher in accord with her evaluations of the pupil's need for the specific understanding. The timeliness of prescriptive instruction in the subsequent contrasting approach is determined by the child through his own goal-patterning potential.

Decisions made by the teacher related to her role in management of a learning environment are a critical part of individually prescribed instruction. The kinds of materials a teacher has in her classroom as well as her instructional philosophies will affect her decision making, and subsequently, the prescription. When programed materials, for example, are used by pupils, the teacher has made an initial prescription. This prescription is extended, hopefully, as a child works through programed materials in reading. The program author's proficiency in anticipating the pupil's subsequent learning sequence and his probable changing needs will affect the adequacy of the programed prescription.

An extensive study entitled "The Individually Prescribed Instruction Project" is now underway at one of the public school laboratories of the Learning Research and Development Center, University of Pittsburgh (*13*). The research study, under the direction of John Bolvin, involves individually prescribed instruction in reading, math, and science. Participating teachers and the research center personnel have cooperatively stated instructional objectives in behavioral terms. These objectives have been sequenced in view of student performance criteria. Instructional materials for reading, as well as math and science, that support the accomplishment of an objective were selected from those available commercially or were prepared by teachers and the research center personnel.

Pupil evaluations in this project are continuous and include general placement tests, periodic pretesting of specifics, and periodic posttesting of specifics. Teachers are taught how to examine pupil data, make evaluations, and subsequently write instructional prescriptions

for groups and individual pupils. An evaluation staff, under the direction of Richard Cox and Mauritz Lindvall, supervises the collection of pupil data, the processing of pupil data, and the evaluation of curriculum materials and tests.

Since the initiation of the Individually Prescribed Instruction Project in 1964, many interesting observations have been made. The school plant itself is an architectural ideal. Collapsible paneled walls permit for large group, team type, teaching-learning experiences. Each classroom also contains a glass anteroom for small group or individual pupil study. The anteroom allows teachers to observe while managing instruction in the main classroom or vice versa.

Major instructional emphasis in reading is placed on knowledge, habits, skills, and abilities that can be behaviorally defined and measured. A portion of the prescriptive instruction seems related to use of work-type pages of material extracted from commercial sources or prepared by teaching and research personnel. Findings related to an analysis of prescriptions written by teachers are currently reported by Bolvin (*6*). Bolvin states that for writing prescriptions the following data are provided to teachers about children: a) background information such as age, family, and past achievement; b) placement profiles; and c) pretest profiles. From an analysis of teachers' prescriptions the investigator concluded the following:

1. Pretest information was the most useful single type of data.
2. The prescriptions reflect teacher estimates and evaluations based on data available.
3. Prescriptions, typically, include the teacher's speculation about necessary degrees of practice and review for concept mastery.

A scientific evaluation of the feasibility and management of individually prescribed instruction within various learning approaches—such as, the basal approach, individualized approach, linguistic approach, language experience approach, and others—is, without doubt, a massive proposal. Concurrently, too, individually prescribed instruction within any one of the learning approaches must be tested within various public school administrative provisions, such as the Joplin Plan, Cross Grade Grouping, Team Teaching, the Nongraded School, Departmentalized Classes, and others. Reasonably controlled guidelines toward such a dual endeavor remain yet to be completely theoretically conceived and absolutely empirically sound.

Related Factors Affecting Instructional Diversification

Issues and factors that affect instructional diversification remain, are changed, or are generated in a continuous but compounding fashion. Four of the many factors affecting the degree of probable individualized instruction are suggested through these questions.

1. What probable effects will technological developments have on reading instruction?
2. How will class size and school plant have to be modified to affect instructional diversification?
3. Do teachers possess competencies essential for accurate and discerning individualization of instruction? Can teacher limitations be resolved through in-service education?
4. What kinds of instructional materials are available to support extended concepts of individualized instruction?

An emerging educational phenomenon now unleashed by technological developments in our nation is commonly called the "computer." The far-reaching potential of this instrument could be an important factor affecting individualized instruction. As described by Patrick Suppes (*28*), computer-based teaching systems will be available in a variety of student-operated instructional devices at a reasonable cost in public education. The fact that presently thirty to forty students or classrooms can each work at a different task simultaneously, makes computerized instruction economically feasible.

These flexible instruments have the capacity to store, analyze, and organize masses of data that will enable the researcher to learn about individual students as they are in the process of learning. Current computers described by Suppes reflect three types of learning systems. The first is a Drill-and-Practice Systems that may supplement the teacher's role. Exercises at various levels of difficulty can be selected for a pupil by the instrument in accord with stored information about his past performance. A second type of learning systems, the Tutorial Systems, replaces the teacher in the main task of aiding a pupil to develop skill in the application of a concept. Computers now have the potential for assessing the validity of a pupil's stated inferences about material presented through the machine. The third learning systems, the Dialogue Systems, might even be able to accommodate the natural language of the student respondent and allow him to conduct a dialog. Research in this area is now directed toward the problems of speech recognition by the machine (*28*).

Atkinson and Hansen (2) describe proposed research on computer-assisted instruction in initial reading. The Stanford project involved 100 first graders for the 1966-1967 school year. The investigators proposed that 100 first graders would receive the major portion of their reading instruction under computer control. The Stanford Computer-Assisted Instructional System has the potential for presenting completely different sets of materials and instructional prescriptions for 16 students simultaneously. Thus, branching and self-pacing are featured within a predetermined, minute instructional sequence. The computer evaluates each pupil's responses and makes a decision about what to present next. All computer options must be preanticipated and written by the curricular programer as detailed lists of commands for the computer. In the Stahford Project, two hundred lessons were designed and read into the machine for the first year by a curriculum writing team. Consequently, pupil results at the close of one year will be affected by the adequacy of the prepared curriculum. Whether the program can appropriately anticipate and provide pupil diversity will attest to its adequacy.

Any comment except one of hope for improving procedures in individualizing instruction, with computers as one of the tools, would be premature at present. Computers can offer vicarious experiences but should never be a complete substitute for direct experiences. The sensations a pupil has in sharing ideas with a computer are not the sensations he has in sharing ideas with his teacher and his peers.

If our speculations about computer-assisted instruction become a reality, class size and school plant will come under completely reversed situations. Reducing class size will not be as critical, and the school plant may appear more like a manufacturing plant for educational production. Reasonably, it will be some time before the problems and mechanics of computer assistance are resolved. In the meantime, teachers are confronted with the tasks of individual assessment and prescriptive instructions.

It is a safe assumption at present that a reduction in class size could facilitate more accurate pupil goal setting, more frequent pupil evaluation, and better-designed instructional prescriptions. Charts of births, birth rates, and the total U.S. population between 1910 and 1970, prepared in the U.S. Department of Health, Education, and Welfare, are evidence that in 1972 there will be 15 percent fewer children in first grade than there are today (*52*). Teachers could reasonably expect class size reduced on an average of about five pupils per class unit. If the rate of teacher preparation continues to

rise and the school economy permits, teacher-pupil ratios may even be smaller as first graders of 1972 move up through the grades. Whether this population decline will continue for first grades in subsequent years remains to be seen. Problems of school plant and space will concurrently be resolved in relationship to class size. Pupils function much more adequately in individualized instructional settings when there are fewer in the class and the school plant is reasonably modified to accommodate large group, small group, paired-pupil, and individual instruction.

Fewer pupils by 1972, more adequately prepared preservice teachers, and continued in-service for teachers would lend a fantastic boost to instructional diversification for pupils. The March issue of *The Reading Teacher*, 1966, is related to the need for continued in-service education. Austin (*3*), Aaron (*1*), Kasdon (*16*), Jan-Tausch (*15*), and Niles (*20*) either substantiate the present inadequacies of reading teachers, suggest areas of needs, and/or present suggested solutions. During the past two years, the current magnitude of federal appropriations for higher education, including teacher education, has amounted in excess of $640,000,000. This figure does not include programs such as Upward Bound and Head Start (*14*). With a continuation of funds and through sincere in-service teacher interest, progress toward teaching teachers about individualizing instruction can occur.

However, merely preparing teachers to better understand instructional diversification without improved instructional materials would produce a compounding educational effect. Various types of audio-visual-kinesthetic materials are available or are being prepared. Some of these can be called auto-instructional materials since they include means for pupil-response, registering, and checking at multi-achievement levels. Self-pacing is also permitted as pupils pursue prescribed instructional goals. Available materials that contain auto-instructional features include reading laboratory kits, representing high interest selections of varying difficulty; workbook materials with self-directive, self-corrective features; and audiovisual machines for controlled practice on rate of comprehension. Programed materials, tradebooks of high interest and varying levels of difficulty, records, films, filmstrips, and many other kinds of materials should be used to support the concept of individualized instruction. Care is recommended in the selection of such materials on the basis of quality. At present the purchase of materials that lend to instructional diversification has been possible, as never before, through federal educational funds (*29*).

Individualizing Instruction and Learning Within Various Approaches to Reading and Within Various Administrative Provisions

Perhaps a distinction can be made about the philosophies and learning psychology operant within various approaches to reading and within various administrative provisions. Individualized learning appears to be facilitated at or along a continuum. At one end of the continuum the teacher prescribes, initiates, and paces learning, while at the other extreme the teacher supervises or prescribes the environment in which the child self-seeks, selects, and self-paces his learning. The following chart of some learning approaches to reading and some materials illustrates the principal of an individualized instructional continuum.

INDIVIDUALIZED INSTRUCTION

TEACHER PRESCRIBED TEACHER INITIATED, AND TEACHER-PACED INSTRUCTION	TEACHER PRESCRIBED PUPIL INITIATED, SELF- PACED INSTRUCTION

APPROACHES

Basal Approach
Phonetic Approaches
Linguistic Approaches

← Individualized Approach

← Language Experience Approach

MATERIALS

Self-Directive, Corrective

Programed →

In examining the chart, one should remember that the extent to which a pupil gains insight while learning may vary within teacher prescribed, teacher initiated, and teacher paced instruction; and within teacher prescribed, pupil initiated, self-paced instruction. Determining the degree to which a teacher should initiate and pace a pupil in learning, as contrasted with the degree to which he is self-motivated and can self-pace learning, is perhaps one key to individualizing instruction. The teacher's role and the child's role in instruction might also change in accord with the kind of understanding, habit, skill, attitude, or appreciation the child is acquiring. Similarities and differences in learning tasks that lend to a natural transfer or reinforcement of learning are also important considerations.

The arrows on the chart are presented to illustrate variations in interpreting and setting the conceptual framework of an approach or material. In classifying the approaches and materials, attention is directed to basic underlying philosophies and designs. When unsupplemented or employed in a singular fashion, the basal, phonetic, and linguistic approaches are largely implemented by the teacher. She initiates and paces instruction in accord with a set of directions that accompany the specific basal, phonetic, or linguistic materials.

The individualized approach and language experience approach are placed at the far right of the continuum to illustrate that some advocates of these approaches perceive learning as primarily pupil initiated and self-paced. Arrows deflecting toward the left of the continuum indicate that other investigators have conceived variations of language experience and individualized approaches as tempered by a watchful teacher who takes a more active role when deemed necessary or appropriate.

When the approaches on the chart or others are employed in combinations, they can be placed all along the instructional continuum. For example, teachers using combination basal and language experience approaches to facilitate a pupil's learning may be simultaneoulsy managing instruction at both ends of the continuum. If we could isolate the approach, the combination of approaches, or spaced rotation of approaches per child, learning might be more easily facilitated and instruction more appropriately individualized. We would, then, necessarily assume that a teacher would know how to consistently employ an approach or would know when and how to shift from one approach or combination of approaches to another according to pupil needs. Is this, in fact, a reasonable assumption in view of varied teachers' potential versatilities and competencies? Certainly a more

scientific exploration of how pupils learn best and how individual teachers can facilitate learning best is warranted.

The task of classifying instructional materials is less complicated. The present complexion of the instructional materials on the chart determine their position. This placement changes as the materials themselves are modified. For example, self-directive-corrective materials, such as the SRA Reading Laboratories, hold a mid-position since to a degree they can be pupil initiated and some self-pacing is recommended. Programed materials by their very nature set the learning sequence even though the child may pace himself within this lockstep pattern.

In this paper, individualized instruction has been treated as an instructional provision within various approaches rather than as an administrative provision separately. Approaches and combinations, such as, the basal approach, language experience approach, individualized approach, and phonetic approach, are employed within nongraded, team teaching, cross-graded, and other administrative organizations.

Administrative attention to approaches, to procedures, and to materials is nevertheless crucial in curricular planning. Basic philosophies and policies should be stated before planning ways to individualize instruction. But, regardless of approach, material, or administrative provisions, the teacher who sparks the interest of each child in learning and meets his needs through individualizing instruction can truly be called "master of his trade."

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W. J. UNDERWOOD

LEE'S SUMMIT, MISSOURI, SCHOOLS

5. Team Teaching of Beginning Reading

IN THE FIELD OF EDUCATION as we continually search for effective methods of presentation and for an improved coordination of the varying elements of curriculum that will insure a steady advance in student learning, we become aware of the need for greater specialization in teaching. Also, it is known that in the primary grades where habits of reading and writing are first formed, student progress is often commensurate with the time available for individual instruction. This result is especially true in teaching the reading skills. Too frequently the teacher workload and the teacher-student ratio are such that individualization becomes more difficult each year.

One answer to these functions of teacher specialization and increased individual instruction may be found in team teaching coupled with an individualization of the reading program.

While team teaching has been discussed a great deal in the literature of the past few years, it is a field still in its infancy; for as adaptable as team teaching can be, it is not possible to use it in many situations and under numerous systems.

Shaplin (6) has defined team teaching as a "type of instructional organization, involving teaching personnel and the students assigned to them, in which two or more teachers are given responsibility, working together, for all or a significant part of the instruction of the same group of students."

Cashen (2) says, "Team teaching is often defined as an approach by two or more individuals to improve the quality of instruction."

This team organization may vary from the dyad, to coteachers, to the hierarchical form which includes a master teacher, several regular teachers, para-professional help, and clerical workers. Steven and Elkins (5) describe the functioning of a team using classroom rotation, unit rotation, and laboratory rotation in the teaching of secondary school English. There is team teaching across departmental lines on subjects of related content as in American literature, American history, and sociology; or several science instructors may exchange classes, each presenting a unit in his own "speciality."

It has generally been found, however, that involvement in the large teams is cumbersome and often defeats its purpose. On the other

hand, the cooperative teaching of two or three instructors offers the members both group help and some degree of independence.

Perhaps the best beginning for such a team is when it seems to be inevitable. This was the case with two first grade teachers at one of the suburban Kansas City Schools.

Mrs. Mc. and Mrs. J. had been trading ideas and materials while working across the hall from each other for several years. When the school became so crowded that moving a kindergarten class to one of the churches was under consideration, they asked for the opportunity of combining their classes and teaching as a team in the vacated kindergarten classroom. Mrs. J., who was working on her Master of Arts degree, had been studying team teaching in her college classes.

The personalities of these two teachers were quite divergent. One was introspective, artistic, a "stickler" for detail. The other was outgoing, mechanically-minded with a permissive, progressive educational bend. Because of these differences, when they began this venture, there was some speculation as to the outcome. In practice, however, the team functioned so well and the children responded so rapidly that a more detailed report of their methods was indicated.

Mrs. Mc. believed that in attempting not to lose autonomy they avoided many of the problems of teams. They did not agree on every little thing, as she explained; but like a perfect partnership, they got along well together while still preserving their individuality. Most was accomplished by dividing the work in such a way that after a two-week period of time, their roles were reversed. One was responsible for the introductory lesson presentation; and, though planned together, this was conducted with very few suggestions from the other member of the team. Each felt free, however, to make suggestions or ask for clarification of a certain element. From the teacher's viewpoint, this procedure was *eating your cake and having it, too,* for she had her own class while adding a much needed coworker. The description of the team under consideration fits well into Cashen's (*2*) ideas on members of a teaching team:

> Cognizance must be taken of the fact that these specialists are working together harmoniously. Sometimes the term "team" is applied more as a means of flattery than an operational reality. The team will vary in size depending upon the function that it is to serve and upon the specialists available. The role of a specialist depends upon the delineation of the problem. A professional team that works together effectively to arrive at a better understanding of problems presented by certain educational environment will have a great deal of overlap and many common elements in their roles. However, though trite to say, the success of a

> team depends on the personal dynamics of each member. A team can function only if each member is utilized in reference to his educational background and his past professional success. His utilization will depend on the degree to which he can contribute.

Encouragement from the central administrative office and the building principal, a desire on the part of the participants, and good physical conditions made a team which very reasonably fits into Cashen's description of two individuals working together for the improvement of educational opportunities.

The physical facilities and setting for team teaching were of primary consideration, of course. The room had to be large enough to contain one central teaching area. In this particular case it accomodated fifty first-grade children. Spaced around the room were the reading tables, cabinets containing games, practice word cards, various manipulative devices, and other materials which could be used for individuals or small groups.

During the opening lesson the entire class was seated in the central area. Much of the success of this team was attributed to the use of the overhead projector in this daily presentation. Its purpose was twofold—to provide a visual means of communication that enabled a teacher to hold a child's attention and, at the same time, give him exact material to copy and study.

Each student had an individual worksheet exactly like the one projected. As the instructor explained the words or wrote on the paper, the child duplicated the actions and followed the discussion readily because of the similarity in makeup. A chalkboard with lines does not resemble the conventional worksheet.

While one of the team conducted this lesson, the other was circulating throughout the room, giving individual help, and intercepting mistakes before bad habits could be formed. After getting acquainted with the fifty children, the teachers soon learned which ones needed immediate help and reinforcement. Thus all children progressed unusually well.

The overhead projector lent an intimacy to the learning process to which the first graders quickly responded. It acted as a reinforcement to the lesson and afforded the opportunity of "working in such a way that learning is assured." At the first grade level, getting and holding attention are often difficult. When a teacher turns her back to write on a chalkboard, eye contact is lost; the child feels freed of the obligation of listening, and, consequently, the work progress is retarded.

With the overhead projector, the instruction proceeded without interruption, and a lesson in concentration was learned at the same time.

The factor of concentration is one which is a concern of every primary teacher and should be the concern of every teacher, regardless of the level. But, in the case of this team, the unusual ability of first graders to concentrate on the lesson being taught was one of the most salient features of the work of the team. In contrast to the ability of these two teachers to get and hold the attention of fifty children, one needs only to visit a good classroom with twenty-five children and one teacher (as the writer frequently does) to see how that teacher is often hampered and sometimes frustrated because she is not able to hold the attention of the group. We often attribute this problem to short attention span, immaturity, laziness, etc., when it really is impossible for a teacher to get and hold the attention of a group of children, especially if the tasks become commonplace and irrelevant to the student.

Teachers who observed the first grade team frequently rushed back to their own buildings, dusted off the overhead projector, and strove for the same kind of worshipful attitude displayed by these fifty first graders. Needless to say, it was not possible to obtain the same conditions when only one adult was in the room. The overhead projector helps, but the second teacher in the room is the key to an improved program. Such a condition in a first grade room is only following what psychologists and teachers have advocated through the years – that in order to learn, one must listen; and in order to listen, one must concentrate upon what is being said and done.

The team members themselves found it difficult at first to talk while someone moved throughout the room. However after a few weeks of this the teachers became accustomed to their different roles, and the first graders developed an ability to concentrate and overlook distractions of motion and noise once thought beyond their capability. One instructor could not accomplish this mood, but two working together readily commanded and maintained the class attention. This combination achieved the first principle of learning—attention.

After the lesson was conducted, two groups of children were taken to reading tables on opposite sides of the room. A nucleus of students continued to work in the central area, often with the projector material acting as a guide. The children proceeded more readily and with greater ease with individual work designated by the material on the projector than they would have had the materials been in workbook or worksheet form. Again, the overhead projector seemed to

have a kind of aura about it which held their attention. However, a number of pictures taken by the writer show that the children did move about the room, visit one another and inspect one another's work, but in a quiet, orderly atmosphere. The fact that there were two teachers in the room, one on one side of the room working with a group and one on the other side working with another group, put children in closer proximity to an adult and gave them a greater direction to perform their seatwork activities.

Donald Durrell has stated that in too many classrooms what we teachers do best is to teach children to sit and wait for their turn. In other words, we teach them to waste time. His question, always, is how often a student's turn comes. With team approach, a child's turn came much more often, even though there were fifty children. Each one of them deserved and got his turn to read, recite, speak, or do whatever the activity might require. The large group of children left working in the central area were able to work independently and more effectively than in a regular classroom because of the concentrated efforts of two teachers to teach independent work skills. Seldom did either teacher need to leave her group to help a child over a difficult problem. Again, the work habits of these children were established to the point where they functioned exceedingly well without interfering with the work of either teacher or interfering with the work of their fellow students.

Grouping children in a team room was more readily accomplished and resulted in a more homogeneous working unit than in a regular class. With the larger number of children, the varying levels of attainment could be more closely approximated for each child who, therefore, was less likely to become bored or fall behind in his study. The work moved along at a fast pace and a child did not have to wait long for his turn at recitation. In the reading group, a child actually had more oral reading time than before. With these fifty children, six regular groups were formed. A seventh was comprised of those needing extra help or those with makeup work because of absence.

The team used well-known, popular reading materials. These included readiness books, readiness sound records, workbooks, programed materials, practice pads for manuscript writing, duplicated materials, and workbooks. A deliberate attempt was made with these materials to teach children the skills of word recognition. After years of experience in using this approach to reading, the teacher was quoted as saying, "I may not be an expert in many things, but I know how to teach children to read." *The proof of the pudding was in the eating*—almost without fail these children did learn to read

well. Not only did they read well, they loved to read and read such volumes of material it was difficult to keep them provided with a fresh supply.

Mrs. Mc. and Mrs. J. in their teaching of the skills always used standard nomenclature. In working with the Plymouth chart or with words written on the chalkboard these first graders responded to such questions as "What is the suffix in this word? Can you find the prefix? Is this a blend? Can you find the digraph?

The two teachers found that in their presentation of language their terms sometimes varied enough that it was necessary to work out new phrases incorporating the meaning of both, thus eliminating any confusion in the minds of children. For instance, in explaining the long vowel, Mrs. Mc. formerly said, "The second vowel is asleep and doesn't talk." Mrs. J. had referred to this as "the silent vowel." Together they decided to use the expression "the vowel is a lazy-bones," thus capturing the imagination of the child as well. Approaching new words in this manner, a first grade student became stable in handling his phonic combinations and was familiar with standard terminology.

It is is even more essential in the team teaching situation for people to plan together the work of the day than it is for a teacher to plan for herself and twenty-five or thirty children. Planning for teaching in the team situation described here was done at no set time. The favorite time, of course, was in the morning before the children arrived when the teachers were fresh and ideas came rapidly. Again, the cooperation between teachers showed in this area of team teaching more plainly than in other aspects of the work. The teachers planned as they walked down the hall. They planned sometimes during recess, music periods, art, or physical education periods. In fact, it was stated by the teachers that "odd time" planning was more fruitful than sitting down after school and evaluating the day's work and planning for the days to follow. At any rate, one of the criteria for a successful team in teaching on any grade level is expert planning. At this stage, after seven months of experience, planning together required less time than it did in the beginning when teachers were feeling their way in developing techniques and working out plans.

In promoting the functional skills after they were learned, the team often called upon one of its greatest assets, the school district's resource library. From the library came filmstrips, teaching pictures, recordings, storybooks of all kinds, magazines, models, tactile materials, and innumerable items which supplemented the readiness and reader textbooks.

In this collection there was a wealth of exciting reading on all grade levels. If a teacher has only one or two sets of readers, there is a chance that the teaching may become stereotyped and often dull. From the resource center came a table full of delightful books for independent reading drawing children like magnets. The colorful books included *Sailor Jack*, *Squeaky, the Squirrel*, *Buttons at the Zoo*, *Miss Huttie and the Monkey*, *Moonbeam at the Rocket Port*, *Jim Forest and Ranger Don*, *Leonard Discovers America*, *Story Time*, *Watch Me*, etc.

When a child approaches the library table and chooses a book, reading becomes a joy instead of a task. The selection in the classroom described here was made under the guidance of one of the teachers in order to be sure that the material was at the child's comprehension level. The successful completion of the book must be within the child's capability for his continued motivation. Emmet R. Betts (*1*) states, "At the independent level, the child should experience little or no difficulty with word recognition or language structure. At the primary-grade level, no more than one 'new' word in 200 running words should require study." Occasionally, a difficult book was "tried" and sometimes an easy one was read because the plot was interesting.

When an upper level reader chooses a book just finished by a slower reader, it is evident that any feeling of competition between the students is eliminated. In this self-selection reading program the child competed only with himself, and there was no pressure. The slow reader improved while setting his own pace, and the fast reader enjoyed his reading. This process resulted in the most efficient use of the child's time. There was no lost motion in drilling words he already knew, nor did he wait his turn or slow his silent reading time by following the words of an oral reader.

Once the book was selected, the team teachers offered encouragement and individual help when needed. The child's interest was stimulated by the sharing of a good story with the teachers and classmates.

When a book was finished, one of the instructors "talked it over" with the student and checked comprehension to see where the interest lay. The child entered it in his *On My Bookshelf* folder, and a careful selection of another volume was made. In this particular first grade there was a 10¢ club, a 25¢ club, and a 50¢ club. Then in the seventh month of school up above the bulletin board went the roster of a 75¢ club—75 books already read by several of the children!

Most of this reading was done in the classroom, though the children were encouraged to read outside. When attention spans are short, a recommended fifteen minutes of outside reading will establish a habit which will persist in the longer periods to come. Close rapport with parents enabled these teachers to get daily reports from home on books read.

From spelling, reading, listening, and telling stories, the child naturally progresses to creative writing. During the year the fundamentals of manuscript writing were begun with the use of, again, the overhead projector. Handwriting is a skill that must be deliberately taught to be effective. With her own pencil position projected on the screen, one teacher showed the students that a letter had a definite starting point, that the pencil must follow a certain path, and that it must stop at a designated point. They followed her on their practice pads. The roving teacher was quick to pick up wrong letter formation or misunderstanding on the part of any individual child, and of course, to reinterest the inattentive one.

After the first semester of school, Mrs. J. and Mrs. Mc. gave children daily opportunity to write creative stories by themselves. This activity was perhaps one of the first grader's most fruitful experiences. Each child had his own picture dictionary in his desk. When he did not know how to spell a word he wished to use, he was asked to look it up. As a further help, the large *Rainbow Dictionary* was available in the room. One of the teachers might aid in finding the word, but here, too, the child was encouraged to be on his own. Often during this writing period a child would begin using words ordinarily considered third grade work. What better way to encourage reading than to urge the child to be an author, too?

Children learned these skills rapidly and accurately and increased their enjoyment of school because of this thoroughness in team teaching. At the same time, teachers found many advantages in team work.

Primarily, their workload was lessened, especially in the routine tasks of bookkeeping and grading, for during the day, there was time to accomplish much of this mechanical business. In first grade many papers must be corrected immediately, or the impasse is lost and resulting bad habits of mistakes may form. At this level there are large quantities of exercises that must be graded with no help from a key. In this team teaching situation one teacher read a story or showed a filmstrip while the other graded papers.

Another advantage was realized when one teacher was called from the room for a conference. The other continued instruction with no interruption nor notice taken by the children. The same held true if one

teacher became ill, for usually a substitute teacher can only mark time until the regular one returns. Then, of course, a review is needed and time is lost.

Are there disadvantages in team teaching? Phillip Lambert (4) could find few. He stated, "The often expressed fears that children would feel lonely or lost in such big groups, that they would miss having some one person to relate to (or cling to), have proved to be unfounded. Most of the children who have experienced team teaching have been enthusiastic. They seem to adjust quickly to the idea of having several teachers instead of one. They make more friends and join more activities. Most of all, they find school more interesting." Certainly this view was reinforced by the particular team under discussion. When asked about the disadvantages, neither teacher could think of any with the team teaching situation.

Most teachers find that they can adjust readily to a team situation. One teacher, however, should be experienced with a good knowledge of materials at hand; the less-experienced one should be anxious to learn, and both of them must be willing to give and take.

In this experience in greater Kansas City, the team arrangement was more than justified by the pupils' learning for the orientation and the adjustment of these fifty children were remarkable. This team found a truly effective method of presentation and took advantage of its specializations to increase the speed and thoroughness of learning of their students.

At the time this report was prepared there had been little objective evaluation in the teaching of first grade reading; there was, however, enough subjective evaluation to conclude that the work of these two teachers was a tremendous success—successful in that two people learned to work together in harmony, that children learned a degree of concentration seldom seen in first grade children, that children read voluminously, and that the program drew attention of teachers from the district as well as a large area of suburban Kansas City. Although subjective in this point of view, the degree to which parents supported the program, the enthusiasm displayed by the principal, and the support given through the administration all left little doubt that the team approach in teaching first grade reading can be successful in opposing the teaching of reading in first grade.

John Guthkelch (3), writing of Marshall McLuhan's Educational Theories, says, "The whole complicated system of formal education is in business to get through to kids, to motivate kids, to help kids learn stuff. Schools are not in business to label kids, to grade them

for the job market, or to baby sit. They are there to communicate with them."

If it is the school's business to help kids to learn stuff, then the team approach in first grade reading satisfies the criteria set by the quoted educator.

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JIMMIE E. NATIONS

INSTITUTE FOR DEVELOPMENT
OF EDUCATIONAL ACTIVITIES
LOS ANGELES, CALIFORNIA

6. Caring for Individual Differences in Reading Through Nongrading.

THE NONGRADED ORGANIZATION of schools is purposely designed to care for individual differences. As an administrative means for organizing learners and learning opportunities, nongraded schools are characterized by their flexibility. This flexibility is derived from the recognition of individual differences significant to the learning act. Such differences mandate alternatives in educational practices.

Nowhere is the demand for educational alternatives more obvious—or more perplexing—than in the teaching of reading. And no one is more aware of these perplexities than the teacher of reading. His tasks are intricate. He is charged with the job of helping each student come into meaningful contact with the reading process. Both reading and students are complex. Bringing the two into meaningful contact is indeed a challenge.

The primary purpose of this paper is to describe *nongrading* as an aid for meeting that challenge. Nongrading is a way of organizing learners and the content of reading skills. In order to describe nongraded organization, the writer will first lay out his perception of what is to be organized. The presentation, therefore, will be divided into three sections. The first will be some observations about reading as a field of study. The second will be a discussion of significant individual differences in students. The third will describe nongrading and some nongraded practices.

Reading as a Field of Study

Reading is a process. It is the process of receiving a message through symbols. The writer starts with this rather obvious statement because in the day-to-day routine of teaching specific reading skills we sometimes focus on the bits and pieces to the detriment of the total reading process. We probably do a far better job of helping

youngsters acquire reading skills than we do of helping them to effectively utilize the reading process. Of course, the skills are necessary. One cannot read until he has them under his control. We receive a communication through symbols only when the right combination of reading skills is brought into play. But reading skills are important only as they foster the reading process.

Thus, one goal in reading should run through the entire school. That goal is for students to consistently gain effectiveness in using the reading process.

We have done a commendable job of defining the skills which meld to produce the ability to read. Basal reading series list these very adequately. These analyses have given us useful tools for teaching reading skills. There is, of course, continued work in refining these small units and the ways in which they fit into the total picture of reading. New knowledge is yielding new insights. We are not, nevertheless, now hampered by a lack of knowledge about the skill and the process of reading. We are sometimes hampered, however, in the application of this knowledge in our teaching.

There are four pervasive limitations in our approaches to the teaching of reading:

First, we center too much attention on the reading program itself and too little attention on the individual learning acts of youngsters involved in the program. Learning is an individual process. The reading program is only a tool to be used by the individual. We sometimes see the program as an end in itself, rather than as a means to an end. We need to put the program into its proper perspective and to zero in on the learning act of individual students.

Second, and related to the first point, we focus our attention too often on the group rather than on the individual. Our methods and materials are most often selected for groups rather than for a specific student at a given point in time. We teach the group and not the individuals in the group. We even talk about achievement mostly in terms of group norms and accomplishments.

Third, as a result of the first and second limitations, we fail to ask the right questions about reading, about reading materials and methods. Indeed, we sometimes ask the wrong questions and then waste our efforts in pursuing answers to them. Our questions are most often of the following nature: If Group A and Group B, (matched according to intelligence, present achievement, socioeconomic status, *ad infinitum*) are exposed to two different methods of teaching, which group will show the greater gain in reading skills over a given period of time? Is Method X equally as good for culturally disadvantaged

youngsters as it is for suburban or upper socioeconomic students? In what order should the skills of reading be taught? Or, which method offers the best sequence of teaching skills? And finally, what is *the* best method of teaching reading?

Most of our questions focus on the reading program and group responses to it. All of our questions should, on the other hand, revolve around one concern: What is the best resource that we can offer this student right now to help him develop his potential reading abilities?

The questions we ask have sometimes yielded valuable information and insights. But despite much honest concern and energetic activity, we have few answers that serve every individual in his need to develop his highest potential in the acquisition and use of reading skills. At best, most of our questioning has resulted in small amounts of solid, useful data. In order to better utilize our time, efforts, and resources we need to redefine our questions.

There is a fourth limitation that relates to all three of the others. But, the writer places it in a separate category. A major mistake is made when we arrange the skills of reading into a sequential pattern through which we assume and expect all youngsters will travel. Although this approach builds a program that seems logical and orderly to us, it may be completely illogical and disorderly for a given learner. There are gross categories of skills that may be sequential. No youngster can make an interpretation of the author's intent, for example, before he can understand what the author is saying. But on the other hand, there is probably no good reason why a child cannot learn vowel sounds before he knows about initial or final consonants—or vice versa.

A sequence in learning to read is something that takes place inside the learner. It is the process whereby a learner fits a new idea, notion, or skill into his already established framework of reading skills. We may see the logic of a sequence that we establish outside the learner, but the learner will not be able to utilize our framework for his own growth. Youngsters must see their own logical system. They grow in reading according to a pattern that is their own:

> A child learns, at any moment, not by using the procedure that seems best to us, but the one that seems best to *him*: by fitting into his structure of ideas and relationships, his mental model of reality, not the piece we think comes next, but the one he thinks comes next. This is hard for teachers to learn, and hardest of all for the skillful and articulate, the kind often called "gifted." The more aware we are of the struc-

> tural nature of our own ideas, the more we are tempted to try to transplant this structure whole into the minds of children. But it cannot be done (5).

These four limitations—focusing on the program rather than the learner, centering attention on the group rather than on individuals, failing to ask the right questions about reading methods and materials, and looking for the sequence in reading skills rather than in the learning of youngsters—have limited our progress in improving the teaching of reading. An assessment of these limitations should give us new insights and new directions.

Individual Differences

Individual students are more alike than they are different. Goodlad (7) says:

> Viewing man as a class of creatures, one is struck with the common features shared by all members of the species. But viewing a group of men brought together for a common purpose, one is struck by the startling person-to-person differences that make agreement on even the nature of the purposes difficult. These are the differences that complicate the problems of school-keeping.

In this sense, men are born different and unequal. Our students have more similarities than differences, but the differences that relate to their learning are of extreme importance in schooling. These must be recognized, planned for, and utilized as tools for further learning. We can profitably focus on differences, rather than likenesses, in youngsters when talking about learning. This way our teaching problems are placed in sharper contrasts.

Every school in the country has files of cumulative folders that show marked differences among students. Any teacher who has ever looked realistically at a graded group of children has seen these differences in their living, breathing form! Anyone who questions the generalizations need only go to the files in his own school and look carefully at the records of mental ability and reading achievement scores. The differences are there and are essentially not modifiable.

1. Youngsters of the same chronological age differ markedly in their readiness to profit from new learning opportunities.

Goodlad and Anderson (1) point out that six-year-olds "differ in mental age by approximately four full years." A similar spread in

ability and achievement is shown on any continuum of growth and development on which we choose to measure students—even in reading. These differences become greater as youngsters progress through school. Even though all students may be exposed to the same reading program, the differences among them are expanded rather than lessened. Goodlad and Anderson go on to say: "This initial spread in abilities increases over the years so that it is approximately double this amount by the time children approach the end of the elementary school." Differences in ability and achievement, from one person to the next, are unavoidable in the teaching of reading.

2. An individual's level of attainment varies from one area of study to another.

If any individual's level of achievement is plotted on a graph for all areas of performance that have significance for his growth and development, one would find that the line depicting his achievement would undulate markedly. The same kind of undulation could be seen if one person's achievement from one skill to the next within the area of reading were graphically plotted. Because a child is quick in learning phonetic skills, he will not necessarily be quick in developing skills of comprehension. We cannot describe a student's real achievement in reading by an average score. We can describe his achievement only when we know the specific components that make up the average score.

Balow's (2) research illustrates this point clearly. He asked, "Does homogeneous grouping give homogeneous groups?" Balow's data came from a school in southern California where all fifth grade youngsters were placed in four reading classes on the basis of their grade equivalent on the Iowa Silent Reading Tests. With this grouping ". . . two classes had a range of one year; another, a range of one and a half years; and the last, three and a third years." Balow observed, however, that "such data reveal only a small part of the picture." When he analyzed the ranges of achievement within each reading class on the basis of the eight subtest scores, he found wide significant variations. In Class B, for example, the range of average reading scores was from 4.6 to 5.6—a one year range. A listing of the subtests and the ranges on the subtest within this group gives a deceptively different picture. The subtests and the ranges were Rate, 1.8-12.7; Comprehension, 2.5-11.1; Directed reading, 1.8-7.0; Word meaning, 2.9-7.9; Paragraph comprehension, 1.9-9.4; Sentence meaning, 2.9-8.4; Alphabetizing, 3.1-8.1; and Use of index, 1.9-8.0. The smallest range on a subtest in this class was five years. The widest range was almost eleven years. Though relatively homogeneous on

average scores, the group was obviously not homogeneous in reading skills.

From this data we can clearly see that two individuals may have the same gross score but differ greatly in what this score represents. A youngster whose average score is 5.6 may have a wide range of subscores. He differs within himself from one skill to the next in his level of performance in reading and in his readiness to assimilate new learnings.

3. Children differ in their interests and values.

The differences between and within youngsters in relation to ability and achievement are compounded by significant differences in interests and values. What appeals to one student often has little or no appeal for another. The force that motivates one child may be the force that stifles another. The book, the story, or the assignment that sets one youngster off on a streak of learning may do little or nothing for the classmate who sits next to him. There are important differences among learners in their interests and values. If these are recognized and appreciated, they can be positive assets to the learning process. If they are overlooked or denied, they can become detrimental to teachers and learners alike.

4. Students differ in their learning style.

We have recognized differences among school pupils in their ability, achievement, and interests. We can recognize the differences within a student from one area of performance to the next. But we need to give extensive consideration to a little explored area of individual differences—the area of learning styles. This section has particular significance for us at this point in our struggles to improve reading abilities. By the term "learning style" is meant a combination of sensory orientation, responsive mode, and thinking pattern. These components of learning style can be quickly described by giving examples of the kinds of questions that need to be raised concerning each of them.

a. *Sensory orientation* deals with the following questions: Is the youngster visually oriented? auditorially oriented? or tactilely oriented? Which of these means does he use most effectively in receiving cues, sensations, information, and perceptions about his environment?

b. Responsive mode asks questions such as: Is this youngster more responsive to learning in a group setting or does he achieve more by working alone? How does he relate to a group of his peers? Does he participate actively, or is he more often an observer? What kind of association and involvement does he seek from the teacher? Does he seek support or does he seek challenge?

c. *Thinking pattern* is established by asking questions like these: Is he a youngster who learns best by first gathering many details and then organizing them into a meaningful whole? Or, does he learn best by seeing the main topics first, by visualizing the overall picture, and then supporting these notions by filling in the picture with details? In his thinking pattern a steady, step-by-step procedure, or does he take gulps of information and make intuitive leaps from them?

The concept of learning styles needs further exploration. When we become involved with this concept, we open our thinking to the recognition of significant individual differences.

Individual Differences and Theories of Learning

There has been much concern with theories of learning during the past few decades. As a result, reinforcement theory and motivation theory have become increasingly important to a clear understanding of individual differences.

Reinforcement theory holds that an organism is most likely to reproduce behaviors which have brought forth positive reinforcement for the organism. Positive reinforcement for a learner is a response which he values and wishes to receive. For some students this response may be the approval of their peers or the approval of their teacher or parents. For others, it may be the intrinsic joy of the task itself. Some students learn to read because it brings approval. Others learn to read for the joy of being able to read. For most students reinforcement is what we usually call "success." Thus learning takes place most often when the learning effort is successful.

Conversely, negative reinforcement—a response which the learner does not wish to receive—is most likely to stop the behavior that elicited the response. Failure at a task is a negative response for most students. A student, therefore, learns from his failure only that the behavior is wrong. And he is not likely to reproduce it. A student who fails repeatedly over a reading task is likely to withdraw his efforts. He doesn't know what he should do; he only knows what he shouldn't do.

Motivation theory holds that the only vehicle for learning is that which is meaningful, relevant, challenging, and interesting to the learner. Most of us know that this condition is true. But, we sometimes lose sight of the fact that although we can see the relevance of a learning task clearly, the learner may not always see the relevance or challenge or meaningfulness of the task. The process of

motivation, in my estimation, is merely the process of helping the learner define the next steps in his learning and to recognize the relevance of those next steps. Hold (5) says it this way, "The only answer that sticks with a child is the answer to a question that he has asked or might ask of himself . . . ."

The most basic assumption that can be drawn from learning theory is that positive learning takes place only when the individual learner successfully encounters a relevant and meaningful task. If the task is too hard or too easy, little or no learning takes place. If the learner does not recognize the relevance of the task, he wastes his time and effort.

In our attempts to help students acquire, master, and utilize the skills of reading, we must keep a constant awareness of their individual differences. And, we must be aware of the relation of these differences to the motivation and reinforcement of individual learning acts.

Self-Selection in the Teaching of Reading

At University Elementary School, U.C.L.A., a self-selection program was developed for teaching young children to read. Among other things, the staff wanted to document the individual differences involved in the process of learning to read. The program was carried out by a team of three teachers working with approximately fifty youngsters. The ages of the children ranged from four to six.

The program of self-selection was an experimental venture. The staff was dealing with three questions:

1. How many of the children would want to learn to read? Since these were young children, there was little concern about whether they learned to read. The opportunity was offered; a child was free to accept it or reject it.

2. What reading materials and methods would individual students select? We wanted to know what reading materials appealed to youngsters. We wondered if those children who chose to learn to read would in turn choose one method of learning. We were interested in seeing whether one method was chosen more often than another.

3. What pattern of learning would various students follow? We wanted to know how often each child would choose to work at reading tasks. We also wanted to find out how long each student stayed with these tasks.

The physical setting for the program was two adjoining classrooms that opened onto an outside play area. One room was designated the reading room. In it there were tables and chairs and a carpeted area for floor activities. There was a wide variety of materials for teaching reading: several basal reading series, library books, workbooks, flannel boards, a chalkboard, paper, pencils, and art materials. The other classroom housed many tools for learning activities: block-building materials, painting easels, clay, puzzles, and games. The patio play area had housekeeping equipment and woodworking tools. The yard was set up with a boat, climbing towers, traverse bars, swings, jungle gym, a large sandbox, and paths for bike riding.

For at least an hour and a half each day youngsters were free to choose the area in which they wished to work and the activity they wished to pursue. They could change activities or areas at any time. There was a teacher in each of the areas at all times. We rotated our teaching stations every two weeks.

During the first weeks of the semester, we talked a great deal with the children about the choices that were available to them. We took them into the reading room in small groups. We showed them the variety of materials. We made some suggestions about how they might be used.

More than half the children worked consistently at reading tasks; that is, they persevered long enough to learn the basic beginning skills of reading. Approximately one third of the total group worked only sporadically at learning to read. For the most part their decisions were that, at this point in their lives, other activities were more important to them. There were two significant cases of children who never came into the reading room after their initial experiences there. John tried reading, had little success, and from that point on avoided the reading room. Testing verified our suspicions that he had gross perceptual problems. He did not select reading because he was unprepared to deal with its complexities. Timothy was another child who avoided the reading room "like the plague." He wanted to play outside with other children. He was capable of learning to read, but his most pressing need was to learn to get along with his peers. We concurred with his decision that he should not spend his school time in the reading room. Reading would come later for him.

Most of the youngsters used a variety of materials for learning to read. Mark truly demonstrated this approach. One day each week he spent the entire morning in the reading room. He read from a basal reader. He played reading games. He dictated a story for the teacher to write down. He learned to read his story. He selected words from

the story to be put on flash cards. He made an illustration for his story and made a cover for it. And then his morning in the reading room was complete. He would not come back for at least another week.

A few of the children worked consistently with only one method. Jill and Jody fit into this category. For Jill, learning to read meant reading out of a book. She chose one series and went through each book, step-by-step. She liked to count the books that she had read. She liked to know that when she finished *this* book, then she could learn to read *that* book. Jody, on the other hand, would never read out of a book. She always chose to dictate a story which the teacher wrote down for her. She was interested in learning to read only the stories that she had written—her own words.

Most of the children who elected to learn to read spent some time in the reading room every day. Kim, a typical example, came in for twenty to thirty minutes of work daily. She sometimes stayed as long as an hour. Mark was an atypical example with his once a week visit. Heidi was another extreme. She never stayed longer than ten minutes, but she never stayed away longer than fifty minutes. Almost on the hour, she would appear in the doorway and demand, in a loud voice, "Teach me to read." After about ten minutes she would abruptly announce, "I don't want to read any more." And off she would go to play in the yard or in the activity room.

By offering young children the choice of whether to read with whatever materials and methods they selected, we became aware of dramatic individual differences in the group. We fully appreciated the complexities involved in providing for these differences in the teaching of reading.

Nongraded Schools

So far, it has been emphasized that reading is a process of communication that can be analyzed into identifiable reading skills, and that learners acquire and utilize these skills in patterns that often vary markedly from one individual to the next. The role of the teacher of reading, then, is to bring together, through some appropriate means, a learner with an identified need and the reading skill or process that will meet that need. One can readily recognize the necessity for alternatives in the objectives, methods, and evaluative procedures of schooling. The organizational patterns of nongraded schools are purposely designed to provide these alternatives.

Nongraded schools are, as has been indicated, characterized by

flexibility. This flexibility is a planned unshackling of both learners and teachers. The design allows each child to engage in a meaningful program of continuous progress.

What are the administrative provisions that nongraded schools make to care for individual differences in reading?

1. Nongraded schools provide flexibility of individual educational goals. They remove the floor and the ceiling of educational expectations. The goals for any youngster are placed as high as he can reach, yet as low as they need to be for him to be successful. The objectives are determined by the potential length of the learner's capacity to reach. This goal recognizes the worth of his abilities and demands of him his best.

2. Nongraded schools provide flexibility in the selection of methods and materials. They utilize a wide array of methods and materials to meet the goals that have been set by and for youngsters. The criteria used for the selection of a learning opportunity are determined by the defined purpose and learning style of the student. The learner and the teacher are given the freedom and responsibility to select methods and materials appropriate to specified purposes.

3. Nongraded schools provide flexibility in the organization of learners and teachers. Classes of children and groups within classes are organized to make the best use of the potential learning of every individual. Many criteria are used for placing an individual in the group, but administrative provisions are made which allow all pertinent criteria to be considered. Consequently learning groups are organized on the basis of meaningful purposes and meaningful relationships.

4. Nongraded schools provide for flexibility in evaluation. The assessment of educational gains are measured in terms of individual potential in the same way that goals are set in terms of individual potential. No minimum standards are set for all learners. No maximum standards are set for all learners. The individual's achievement is evaluated according to what he is capable of doing, and what he has actually accomplished.

Nongrading and the Teacher of Reading

The operational framework of the reading program in the nongraded school can best be described by talking about the role of the teacher in the learning act including the tools that he needs, some questions that he must keep uppermost in his mind, and some aspects of the teaching act.

Several references have already been made to the teacher's role as being one of aiding or facilitating the learning act. What the teacher of reading does in the instructional setting has relevance and significance only as that act helps a student gain in his ability to use the reading process.

Three tools are essential to the teacher if he is to function effectively as a facilitator of learning. The teacher of reading in the nongraded school must have 1) knowledge and understanding of the learners with whom he will work; 2) knowledge and understanding of the reading process and the skills that are necessary to the process; and 3) a storehouse of methods and materials to offer as means to students who are learning reading.

The teacher's business is to "put himself into contact with the intelligence of his students, wherever and whatever that may be . . ." (*4*). The teacher of reading in the nongraded school must, then, start with baseline data about each of his students; such as,

a. What are the skills of reading that the youngster already has in his possession; that is, what pieces of the process does he already have?

b. What skills are lacking? What prohibits or limits this youngster's utilization of the reading process?

c. What has been this youngster's learning style? What can I know about the way he has learned in the past? What methods and materials have been successful for him? What has been unsuccessful? What has blocked his learning?

Of course, to attempt to deal with the first and second groups of questions the teacher must be intimately aware of the structure of reading—the skills that fuse together to produce the process. We engage in foolish dialog when we discuss the question of whether it is more important for the teacher to know the learner or the subject matter. The teacher cannot adequately bring the learner and reading together in a meaningful contact unless he knows each well.

In the nongraded school, the next steps in learning for an individual are defined according to his perceived needs. Realistic educational expectations—expectations that challenge him, yet may be successfully attained by him—can be ascertained only in these terms. Once these expectations are defined, the next step is the selection of a method and of materials that 1) fit the student's level of achievement and provide specific help for him to gain the skills which he needs in order to read; 2) provide a pace that is commensurate with his learning pace; and 3) fit the needs and interests which seem relevant to him. To help the learner achieve this match, the teacher must have a

variety of methods and materials available. He needs a variety of books that differ in level and interests: programed materials, basal readers, reading kits—whatever variety of materials that will serve his student's needs and purposes.

Grouping

In facilitating the learning of reading, the teacher not only assists in bringing together the learner, a task, and appropriate materials, he also brings together groups of individual learners who can profit from working together. A group of youngsters who have a common need might be brought together for some identified learning purposes. A youngster would then leave the group as his need is fulfilled. Or the entire group may be dispersed after a period of time. Another purpose for bringing youngsters together in a group situation is to provide a learning opportunity that has many facets and, consequently, may meet differing needs. Thus, the learning opportunity that is offered has a wide range of outcomes, and each child in the group is there because some need of his can be met. The teacher is an organizer of groups and thus must be aware of specific similarities of learners as well as individual differences.

Teaching Reading in a Nongraded School

The role of the teacher of reading in the nongraded school is complex. It is necessarily complex because the teacher is working with complex individuals and a complex process. But, let the writer hasten to say that it is a stimulating, worthwhile, and rewarding role. It pays dividends at a rate that no other investment can come near.

Englewood Elementary School in Englewood, Florida, is an example of a school which moved, over a period of years, from a graded organization to a nongraded organization. We had recognized the significant individual differences of our students; we tried valiantly to gear our teaching in the classroom to meet these differences, but we felt that our efforts to care for individual differences were hampered by graded grouping. And so we began to build a new organizational structure for our school. We listed the characteristics of individual students; we used this listing as a guide for putting groups of youngsters together and assigning them to a class with a given teacher or a team of teachers.

One class that the writer taught at Englewood School was made up of 28 six, seven, and eight-year-olds. Almost every one of them had a

special reason for being in that particular group. "Buffie" was an exceptionally bright and mature six-year-old girl. In some ways, she needed to be with children who were chronologically older than she was. In other ways, she needed to be with her own age group. This particular class was just right for her. Lois was placed in the group because she and "Buffie" were the best of friends. They supported each other in a positive way. They were good for each other, and so they were put in the same class. Gary was an extremely aggressive, violent six-year-old. He was placed in this group because he needed a man teacher—and the writer happened to be the only man teaching six-year-olds.

Jackie was an average eight-year-old, in most respects. But she had previously had problems in learning to read. She was put in this group where she would not be "low man on the totem pole" in reading. In this placement, she would be on approximately the same level as several others and above the level of many children in the class—for the first time in her school career. "Cappy" was a bright eight-year-old, but he was immature. Because he was older, and obviously bright, the other children expected him to develop leadership skills and to "act his age." Sue was by far the tallest seven-year-old child in the school. Physically, she had always stood out "like a sore thumb." In this group there were other children—eight-year-olds—who were as tall as she. The writer could go through the list of all twenty-eight youngsters and give special reasons for their being placed in the group. Enough examples have been given to make the point that the nongraded organization allowed the flexibility to place each youngster in a group that was just right for him.

We, the staff, had recognized that in order to be free to use a wide variety of methods and materials in teaching reading we needed a curricular framework that would give us some criteria to use in making a good selection. If we were to make decisions about the appropriateness of a given learning opportunity for a given youngster at a specified time, we needed some agreements as to the guides that we would use in our decision-making. We used a listing of reading skills from one basal reading series. We removed the grade labels from the list and organized the skills in a way that was more feasible for us. Youngsters did not have to go through the skills in the order that we had listed them, but eventually, they did have to possess each skill. As a checklist, we made a mimeographed copy of the skills for each child's folder. When a teacher could determine that a child had gained a specific skill, then that was checked off on his list. The blank spaces—where there were no checks—served as one part of

the data for defining the next objectives for a given child in reading.

It was with some anxiety that the writer approached the task of helping each of these youngsters to gain in reading ability. At first, the range seemed so great. One youngster could recognize only one word—his name. Another could read fourth-grade books independently. But the writer was mindful of the fact that in a fourth grade class that he had taught, the range of average reading scores was 1.8 to 9.2. As you recall, Balow's study (*2*) recognized the fact that this statistic does not adequately describe the full range in reading skills in the group.

With good intentions and a little teaching skill the writer plunged in. We started the year with the six-, seven-, and eight-year-olds by setting up situations where we could find out what each of them already knew. Together we wrote many experience charts, as one means of getting to know one another. The writer wanted to find out which ones could read all of the charts that we wrote and to observe which words gave whom trouble. We watched to see which youngsters were really interested in reading, who learned new words quickly, which children could analyze the components of the word, and which could not remember from one day to the next. With the youngsters who already had many reading skills, diagnostic tests were used to find out what skills they had and what skills they were lacking. The kinds of books selected during library period were observed. Were their choices at a good reading level for them? What interests did the youngsters show in their selection of books?

From observations and testing, we were able to learn enough about the students to form some clusters of learners. There were four youngsters who were not yet ready to begin reading. They formed one cluster. These four needed more experiences with using and hearing the spoken word. And they needed more experiences in visual recognition. They did a great deal of work with fitting the pieces in puzzles, arranging shapes on the flannel board, stringing beads in sequences, painting and drawing, and working with clay. We talked in our small group, and then the writer wrote on charts the stories dictated by the children. These children weren't expected to read their charts, but this activity helped to develop the readiness for wanting to read. Those who could already read helped with this group by preparing stories to read aloud to them. Or the more able youngsters interpreted a favorite story in a puppet show or a play and presented it for the nonreaders.

There was a cluster of eight children who were just ready to launch full-scale into a reading program. They had the readiness.

As time went on they separated into two groups. Three of them went about reading "like a house on fire." They gained skills so rapidly that not even the teacher could keep up with them. The other five were steadier in their pace. They gained their skills step-by-step rather than by intuitive leaps and bounds.

These two clusters—the four nonreaders and the eight beginning readers—frequently worked together. When we wrote a story, there were meaningful learning activities for every individual. It was a good group for sharing ideas and experiences. And, everyone could gain some needed learning through occasional total-group-learning opportunities.

There was a cluster of ten youngsters who had many reading skills already but who were not yet independent readers. The skills that they had were not the same for all the youngsters, but they could work profitably in one instructional group most of the time.

There were six students who formed a cluster of independent readers. They had sufficient skills to enjoy reading on their own. There were many skills that they had not developed, but this lack did not hinder their performance at their present level. They were capable of engaging in the kind of individualized reading program that is described by Veatch (*8*).

These last two clusters of students could work as a total group on certain skill development, and instructional groups for teaching a specific skill could be made up of youngsters from both clusters who were lacking that skill. An individual conference was held with each of these students at least twice a week. By hearing them read orally from material that was challenging, one could determine their difficulties. Then, a group of youngsters who shared the same difficulty could be brought together for a lesson. Thus groupings for specific skill lessons were very fluid and highly flexible.

As the year went on, the majority of youngsters moved into the cluster of independent readers. Most of the reading program consisted of the activities just described: 1) reading groups for enjoyment, comprehension, and identification of needed skills; 2) individual reading conferences; and 3) skill groups made up of youngsters with a common need.

Each day of the program was different, but there was a general format. The first hour and a half of the morning was devoted exclusively to reading and other aspects of language arts. As the children came into the classroom, they began work on a reading task or project. (We had planned and organized the previous afternoon so that each child knew what he would work on when he came to school.) Roger

might have three new words to learn. He learned best through tactile experiences, so these words would be printed in large letters on fingerpaint paper. He would make long rolls of clay and then go over the letters in each word with the clay. Then he would feel the word in three dimensions. Pamela, Wayne, Cappy, and Sue might be working on a puppet show. They would gather their materials and go to work with no help from the teacher. Kevin might have several pages torn from a workbook that would help him learn about long vowel sounds. Keith, Karen, and Gary might be drilling one another with flashcards of words taken from stories on charts. Jackie might be hearing Wendy read and helping her with the words in a pre-primer.

During the morning, most of the writer's time was spent in small instructional groups, teaching a specific skill to youngsters who had an identified need for that skill. Sometimes the writer worked with the clusters of youngsters, and part of the time was spent in individual conferences. These were usually carried out whenever time could be found for a brief session with one youngster. There were times when the total group was worked with as when we wrote a story together, or reread our charts that we had written, or made a list of words that would be needed for an upcoming holiday.

The writer was busy and involved every minute of the time that he was teaching reading. But so were the students. Every child worked hard at learning to read.

At the end of the school year the most immature student could read comfortably from a hardbound primer. Three of the six-year-olds made a perfect score in at least one area of a reading test for the primary level. Every child who had been tested on reading achievement in the fall showed a gain of at least one year and two months in his average reading score. Our nongraded organization had proved itself. It had allowed us the freedom and flexibility to care for individual differences. It had unshackled the best human potential of both teacher and students.

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ELAINE STOWE

SACRAMENTO, CALIFORNIA, SCHOOLS

7. Departmentalization of Reading in Elementary and Secondary Schools

IN THIS ATOMIC AGE of automation, teaching machines, and electronics increased emphasis on learning has not lessened the demands of the teaching of reading but, rather, has heightened them.

In an effort to meet these demands educators constantly strive for new methods, new approaches, and new organizational patterns. Our concern with present reading practices, for the purpose of this paper, will be with one type of organizational pattern that appears in various adaptations in the schools—namely, departmentalization *per se*.

For decades educators have been advocating instruction geared to individual differences. Teachers have accepted this theory; but when faced with the reality of individual differences of pupils within a classroom, they have been frustrated in seeking to apply it. They are cognizant of the conflict between instruction based on grade-packaged content and the kind of instruction that is suggested by research and experience pertaining to child development, learning theory, and curriculum practices. Classroom instructors recognize the range of abilities and the variations of achievements of pupils within the classroom. Closer scrutiny also discloses the fact that the abundance of different kinds of materials necessary to meet the instructional needs of the group requires more space for housing than the average classroom contains. And so the teacher's dilemma begins to unfold.

Will the organization of the school solve the reading problem? The main purpose of any plan of organization is to provide for the continuous growth of each student, to provide him with the best possible experiences and opportunities for learning, and to equip him with the opportunity to work with other students who may need to improve the same skills. A wide range of individual differences will exist within any group, regardless of the type of administrative plan of school organization adopted. If the teacher does not recognize the need for gearing instruction to the student's level of achievement, no administrative plan will be effective. Materials and instruction will need to be varied; they will need to be selected in light of the purposes they are to serve.

Departmentalization is a form of grouping. Grouping for instruction is an administrative method for assigning pupils to teachers in some planned manner. The organization can be tailored to fit any particular program that the school personnel considers useful; organizational patterns that are enthusiastically supported by the teachers are usually most effective (*9*).

At the present time various kinds of organization for subjects and classes are under consideration by teachers and administrators. Many educators are attempting to find new and novel approaches. Some of these new plans are modifications of departmental patterns of twenty-five, thirty, or even fifty years ago. The recent revival of departmentalization in the elementary grades is not without precedent. This procedure of departmentalization (described as a method of school organization under which each teacher in an elementary school instructs in one subject or in one group of related subjects only) is mentioned by Irving Kilpatrick (*4*) as being employed by school administrators in the 1890's. It evolved at that time because of a general demand in the large cities for more expert teaching. As the system was developed in New York, it began in the eighth grade, moved downward to the seventh, and because of successful development continued downward to the sixth and fifth grades. No mention is made of extending it below fifth grade in that district at that time. The principal advantages claimed for it were expert teaching, improved discipline, improved physical conditions, better equipment, enriched curriculum, and unity and force in school management. The objections were that it tended to promote overwork, to provide weak correlation, to make teachers become narrow-minded, to create difficulties in school management, and to result in lack of personal control of pupils on the part of teachers. This type of organization became an accepted practice and continued to appear whenever schools felt it met their needs.

An interesting and unique use of departmentalization that appears to be an early attempt of team teaching is worthy of mention. The *Cooperative Group Plan*, conceived by James F. Hosic (*3*) in the 1920's called for *teachers* to work in small groups with a chairman for each group. All other grouping or departmentalization plans involved the grouping of *children*, not of teachers. Under this plan teachers were put in charge of special rooms. The teachers were specialists in teaching children, not in teaching their special subjects. From time to time the teachers met to plan ways to integrate special subject areas which would provide for the essential learning experiences of the pupils.

Early in the thirties, William Kilpatrick (5) wrote about departmentalization in terms that could easily be applied to some modern educational practices:

> The factory system, introduced in the early part of the nineteenth century and characterized by specialization of work, proved so successful that it was applied to education. Teachers began to specialize in certain parts of the curriculum. The future of the system was forecasted in the following manner.
>
> Eventually our schools will, in certain respects, resemble great manufacturing plants. The achievement tests will become accurate gauges of the educational (manufacturing) process. In each subject the children will pass through a given number of steps in as definite and sequential an order as the steps in a manufacturing process. The standard tests will measure the accomplishments as the machine producers are gauged. Each process will be taught by an expert, automatic devices and machines being used where possible.
>
> The achievement tests compel the child to aim each educational effort at one object where we are now aiming at a flock. For a certain definite and limited time, each child will attack his own specific difficulty after the application of the tests has shown him what that difficulty is. The children will be grouped in such a manner that all who are overcoming a specific obstacle concentrate their efforts upon it at the same time.

By 1952, educators were concluding that departmentalization resulted in an artificial mechanized instructional program. For example, George Kyte (6) stated that the needed elasticity of time for instructional purposes was impossible in this organization. Teaching, furthermore, was prone to become subject-centered, and the pupil, because of his exposure to so many teachers, could be exploited by the many demands of all his teachers. A continuous and conscientious effort on the part of the faculty was necessary in order to have a desirable, well-integrated, articulated, instructional program.

Objections that echo the sentiments of those of the earlier years continue to appear at the present time: the teacher has the responsibility for too many pupils and cannot really know any of them well; time is wasted in moving from room to room; and over a period of time the strain of the work on the teacher is too great. In an effort to solve the problems inherent in the plan and yet retain its advantages partly departmentalized programs have evolved, and many schools today reflect this partial plan. One example is the Joplin Plan which attempts to departmentalize reading instruction in the elementary self-contained classroom. Educators continue their evaluation of this organization.

Arthur Gates, writing recently on current organizational practices for reading instruction, comments that, "Departmentalizing for reading in the elementary school is not supported by current experience or research" (*2*).

Margaret McKim sums up the concern of many educators regarding this type of organization when she states "Every part of the daily schedule makes its contribution to reading skill. The problem of finding enough time for scheduling reading activities becomes less formidable when every reading experience in which the children engage is thought of as providing an opportunity for reading instruction and practice" (*8*).

Some specific examples of schools that are presently using the departmentalization organization have been selected for discussion in detail. The first is a preschool class; the next two are seventh and eighth grade schools, and the last one is a reading program in a senior high school.

Preschool

One of the most controversial pilot programs in departmentalization presently under study is the one being conducted by Carl Bereiter and Siegfried Engelmann in Illinois. This program involves preschool children from culturally deprived areas. It emphasizes academic objectives and uses a highly structured approach to achieve them (*1*). Carl Bereiter and Siegfried Engelmann are adherents of the "cognitive" school of psychology, which holds that an individual's achievement in life depends very largely on what he has been helped to learn before the age of four and that many children are irreparably damaged because they do not learn enough during this early, crucial period.

In this pilot program were fifteen preschool children selected from a predominantly Negro school district in a community where the Negro population has, by northern standards, an exceptionally low per capita income. From the first day the children were given an intensive, fast-paced, highly structured program of instruction in basic language skills, reading, and arithmetic. Each of these three subjects was taught as a separate class, each with its own teacher and with the children circulating in groups of five from class-to-class. Classes were at first fifteen minutes in length and then expanded to twenty minutes as the children became better adjusted to the routine. The only other major educational activity was singing.

Here specially written songs were employed to give additional practice in skills being taught in the classes. Unstructured activities and semistructured activities from ten to twenty minutes in length were interspersed between the three academic areas of language, arithmetic, and reading.

At the conclusion of a nine-month period, each child's progress was evaluated on a standardized achievement test—the Wide-Range Achievement Test, selected because the norms extend down below the first grade level. Results showed eleven of the children scored at or above the beginning second grade level in arithmetic and only one scored below the first grade level. Although spelling had never been taught, four of the children scored at the beginning first grade level. Results revealed that although the children had not yet entered kindergarten, they were, according to the two most basic tests in reading and arithmetic, ready at that time to enter first grade.

Intelligence test scores of these children rose from an average of 93 to slightly above 100 at the end of seven months. This gain was greater than that which would normally be expected from improved responsiveness to test-taking situations.

The three-teacher arrangement seemed to have important advantages for culturally disadvantaged children. They had an opportunity to know each teacher well; if a certain teacher did not relate well to a child, the child had the opportunity to have instruction from two other sources. Thus potentially neurotic relationships may have been avoided, and the child learned how to learn from a variety of teachers. Observers of this experiment indicated that the children eventually were able to learn from practically anyone who could teach.

It would be deceptive, however, to give the impression that these children had attained the same background and success in use of language as did those children from more culturally privileged homes. They had achieved, however, at an above-normal rate of learning, those academic objectives outlined for the program. These specific areas had been selected as the most crucial areas for future academic success.

Many educators are critical of the pressures applied to these pupils in order to force them to attain academically. They feel other educational values of social adjustment, self-confidence, self-knowledge, knowledge of society, and an opportunity to use concrete materials were completely disregarded in the experiment. Over a period of time the attainment of these broader objectives may be more vital to participating as a successful member of society than those emphasized in the research experiment. In any event, time is needed

before valid conclusions can be reached.

In *Language Programs for the Disadvantaged* (9), the report of the National Council of Teachers of English Task Force on teaching English to the disadvantaged, the committee sums up its observations of this program in the following manner:

> Despite reservations about the applicability of some of the findings and methods of Mr. Bereiter's work to the normal preschool situation for disadvantaged children, conferees saw much value in specific experiments of this kind assisting educators to identify characteristics of disadvantaged children and approaches which provide remediation critical to success in school. The conferees felt that such projects seem less to provide model programs for emulation than ways of advancing general knowledge about the characteristics of disadvantaged learners of preschool age.

To a large extent, therefore, the organizational pattern used in these very early school years is determined by the nature of the learning goals, by the techniques decided upon, and by the way in which children have been found to learn effectively.

Elementary — Seventh and Eighth Grades

The San Juan Unified School District in Sacramento County, California, spreads over a large area and serves approximately 52,000 children. The people of this area are Caucasian; the majority are in the middle- or upper-income brackets, with a few in the lower socioeconomic levels. The fourteen students from a minority group are from families with very high incomes.

Teachers and administrators in evaluating the reading programs in grades seven and eight realized their English classes were not making adequate provision for the teaching of reading. Parents with whom administrators conferred concurred in this conclusion. As a result of the study for alleviating this condition, the consensus was that a departmentalized organization afforded the greatest opportunity to improve the quality of reading at these grade levels. It was decided that reading classes that were separate from the required English period would be provided for and would be required of all students.

Reading classes that cut across grade levels were organized, and the teaching of reading skills was intensified. Through utilizing the services of members of the staff who were interested in teaching reading and who were willing to improve their own knowledge and

skill in using various techniques, the instructional program was improved.

The California Test of Mental Maturity, the California Achievement Test, and the Durrell-Sullivan Reading Test were used as diagnostic and achievement instruments. Teacher judgments supplemented by students' test scores were used as bases for grouping students.

The assignment of students to groups was flexible so that any individual not properly placed could be reassigned to the proper group. Those students who were very low in reading achievement were given the Oral Gilmore as a diagnostic test. Teachers were trained by the coordinator of reading not only to give the test but to interpret the results.

The staff of the Arden Elementary School felt that a nongraded reading program would best meet the needs of their school. They established reading levels and placed only twenty students in each level. A copy of their description of the levels follows:

Reading Level 1

Remediation is provided in sight vocabulary, structural analysis, and other reading needs as determined by diagnosis. The typical student placed in Level 1 would be classified as a "slow learner" and/or one who would meet the criterion for the San Juan District remedial reading program.

Reading Level 2

This level provides for basic developmental reading instruction. Students placed in Level 1 may, at times, work with this group.

Reading Level 3

Developmental skills comparable to sixth grade are emphasized at this level. Independent reading is encouraged.

Reading Level 4

An independent reading program comparable to grade seven is provided.

Reading Level 5

> At this level, which is comparable to grade eight, students participate in a program emphasizing literature.

Reading Level 6

> Level 6 is for students who have mastered all developmental skills in Levels 1 through 5. Students placed in Level 6 are identified as gifted and have advanced reading achievement and motivation.

In each level developmental reading skills are emphasized with word-attack skills, structural skills, and comprehension skills being intensified.

The materials used are state texts, basal and enrichment series, carefully selected library books, and special remedial books, such as, the *Morgan Bay Mystery* series and the *Deep Sea Adventure* series.

Another program worthy of mention is conducted at the Jonas Salk Elementary School. This school has a two-period core curriculum consisting of language arts and social science, each core being taught by one teacher. In addition to the core curriculum, each student is assigned one hour a day in a reading class. A four-room building houses these reading classes. Two rooms have a movable partition between them, allowing for free movement of students between the rooms.

The basic materials used are the same as those in Arden School, but additional equipment has been provided which includes tape recorders, listening centers with headphones, and overhead projectors and transparencies.

There are at present three reading levels. In each level students are grouped according to their instructional needs. All groupings are flexible. Each level is taught by a reading teacher, with each teacher teaching six periods of reading in a seven-period day.

In-service meetings are conducted regularly on a monthly basis, with provisions being made for special in-service meetings as the need arises. These meetings are conducted by the coordinator of reading.

The administrators in both of these elementary schools are charged with 1) developing the organizational pattern with their staffs and with the coordinator of reading; 2) meeting with parents and explain-

ing the program: 3) inculcating a positive attitude toward the program on the part of teachers, students, and parents; and 4) carrying through the program after it is initiated.

Evaluation of the reading program is made by pretests and posttests using standardized instruments. These are administered yearly to determine the status of the program. While there are no control groups, the reading gains of pupils compared with their scores of previous years attest to the success of their departmentalized reading program.

Subjective survey results indicate that students' attitudes toward school and toward learning have improved. Teachers report better attendance and fewer behavior problems. Parents report pupils' increased interest in school and fewer behavior problems at home.

An added benefit from this program is the improvement of pupil attitudes in these reading classes and in attendance; in general attitudes toward accomplishment in other subjects; and in behavior in the classroom, on the schoolground, and in their homes.

Previous to this organizational change teachers in all subjects reported that, whereas they each taught the vocabulary of the particular subject being studied, there was insufficient time for the adequate development of all reading skills. Teachers also concluded that it was of prime importance for students at these grade levels to develop study skills and that this goal could best be accomplished through special reading courses. They indicated, too, that teachers in academic subjects were not sufficiently well prepared to teach reading as effectively as it should be taught.

Senior High School

Sacramento City Unified School District serves the capital city and has a school population of approximately 53,000 in kindergarten through grade 12. Sacramento Senior High School, one of four senior high schools, has a heterogeneous population of approximately 2,500 students, coming from such culturally different neighborhoods as the River Park District, where many of the State College professors have their homes, to the Oak Park District, where each year there is a sizable immigration of Negroes from the Deep South. The other major minority groups are Mexican-Americans and Orientals. Almost daily there are new enrollments of students from Mexico and Hong Kong, who speak not a word of English.

Evaluators of the English curriculum of Sacramento High School

found that the greatest need of the majority of students was for the development of reading skills that would enable them to succeed in their school work and in their outside-of-school activities.

The educational philosophy of the high schools in the district is implemented through what is termed a "goal-centered curriculum." Each student indicates his professional or occupational goal and enrolls in corresponding courses—high school terminal courses for the student who is not planning to go to college, junior college preparatory courses for the student who plans to attend college for two years, and the four-year college-preparatory course for the student who plans to enter a four-year college or who plans to attend a junior college and then transfer to a four-year-college or university.

Students in the high school terminal classes are generally poor readers, with some students being virtual nonreaders and others having varying levels of reading skills, with seventh grade reading ability being the upper limit. Students with reading ability higher than seventh grade are counseled to move to junior college preparatory classes.

In the traditional program, as many as 35 of these students were placed in one class and given reading materials that required at least tenth grade reading ability. Under these conditions the students not only made little progress in reading but many of them actually regressed. As a result of their lack of success, the attitudes of the students were deplorable—they either vegetated or they behaved obnoxiously. They could see no reason for taking the required courses of English. In order to alleviate these undesirable conditions and to motivate these students to learn to read, English Language Laboratories were established in Sacramento Senior High School. A teacher in the school describes the establishment of the laboratories as "the beginning of a new day following a dark night."

To accommodate all the high school terminal sophomores and juniors, four traditional English classrooms were selected to be transformed into laboratories for the 24 classes that were required every day. The rooms were completely refurnished with modern lighting, acoustical treatment, blackout curtains, and new furniture and were provided with abundant electrical outlets. Tables and chairs were substituted for the traditional desks. The mechanical equipment for each laboratory included eight typewriters, a movie projector, an overhead projector, a phonograph, a filmstrip projector with tachistoscopic attachment, a listening station, tape recorders, a controlled r[illegible]eading accelerators, table screens, and a wall screen.

[illegible] necessary that the reading materials selected for the labor-

atories provide for the development of basic reading skills on an elementary level but, at the same time, they had to be of interest to teenagers. The materials provided included almost everything published that had been tested and had proved to be effective for use by students of the type enrolled in high school terminal classes. These materials represented a wide range of reading levels and included reading and spelling laboratories; readers developed for teenage students with low reading abilities; spellers; short stories; dramas; science books; occupational-oriented stories, both factual and fictional; biographies; district-prepared consumable materials; encyclopedias; and dictionaries. Filmstrips, films, records, tapes, and transparencies purchased for these classes were made available through a special library section of the district's audiovisual department.

The English curriculm for the high school terminal student was designed to enable each student to achieve the following objectives:

> To realize the importance and the need for further development of the basic skills of reading, speaking, listening, writing, and spelling.
> To develop positive attitudes toward self and toward life.
> To learn to express an idea in a complete statement, both orally and in writing.
> To develop the desire to stay in school.
> To gain understanding of literature and to find pleasure in reading stories.
> To gain insights for personal growth from reading good literature.
> To develop skills and attitudes that will make him employable.

As a means of helping students to achieve these goals, teaching study guides were developed to help teachers make the courses interesting, effective, and balanced. In these guides activities were suggested for the development of reading skills and desirable attitudes, for improving speaking habits and listening skills, for extending writing skills and improving spelling skills, and for making literature interesting. Most of the activities suggested in these guides were directly connected with some of the chief interests of teenagers, such as, owning a car, getting a job, and having fun.

Accompanying these guides were Students' Materials Kits that supplied the teacher with materials to implement the lessons in the guides. In the kits were such items as job application blanks, sociodramas, message forms, telegraph blanks, pictures that provided topics for compositions, telephone message blanks, message tapes, and job interview tapes. The use of kits permitted teachers to spend their time in the preparation of lessons and in teaching, rather than

in searching for or preparing materials and duplicating them. Consumable materials were stockpiled so that they might be reordered from the central library as needed.

Human factors were considered also in the establishing of English Language Laboratories. First under consideration was that the number of students in high school terminal classes should not exceed a maximum of 20 students; a larger number would have precluded the individual work that these students sorely needed. Federal funds permitted the necessary reduction of class size. All who worked in the program agreed that reduction of class size was indispensable to a successful program, and they placed it as the chief factor in the success of the program.

The second human factor to be considered was the selection of the right teacher for this program. This step was obviously vital for the success of the students. The teacher, it was thought, must be interested in teenagers and individuals; must have a warm, outgoing nature that would enable him to establish rapport with these students, who often tend to be difficult; and must be able to derive satisfaction from any progress the students made, even though they might fall short of achieving the goals of the program.

The high school English teacher who has had training in the teaching of reading is so rare as to be virtually nonexistent, yet the teaching of reading is the main activity of the English Language Laboratory. In-service training had to be provided in order to get teachers of English to recognize the need for teaching reading in secondary schools and to acquaint them with techniques that can be employed. Through demonstrations, individual conferences, and summer workshops the teachers received much additional training. The in-service program continued throughout the year, and teachers received individual guidance as they needed or requested it. Teachers were informed quickly of any new techniques developed, and new materials were always made available as soon as possible.

A third human factor in the success of the English Language Laboratory was the teacher aide, an adult assistant who helped the teacher in every conceivable way but whose prime function was tutoring individual students. After the teacher had presented a lesson, the aide helped the student who didn't know how to start; she helped the student who had been absent; and she gave individual students help wherever needed.

By doing all of the clerical work, the aide released the teacher for her most important function—teaching. The aide took roll, checked objective tests, recorded grades, typed ditto masters and duplicated

them, prepared bulletin board displays, and did the filing. Since several teachers used the same laboratory during the day, the aide was responsible for keeping the room attractive. She checked the bookshelves for orderliness; saw that the mechanical equipment was in good working order, was available when needed, and was stored in a designated place after use; and kept an inventory of supplies and equipment. The aide also operated the projectors. In addition, the teacher aide kept a complete reading progress record for each student. The record was cumulative, and the card went into the student's permanent record for the use of the teachers in the ensuing years.

The teachers agreed unanimously that, after the reduced class size, the second most important factor in the success of the laboratories was the teacher aide.

A fourth human factor in the success of the language arts laboratories was discovered as a result of being unable to provide a sufficient number of adult teacher aides. More aides were needed, so the school experimented with using students as teacher assistants. Volunteers were recruited from study halls. The assistants, of course, had no tutorial duties, but they relieved the teachers of many clerical duties. The success of this program far exceeded expectations, for student assistants in most cases were just as efficient as the adult aides. The program was extended beyond high school by assigning student assistants to teachers of junior college preparatory classes and four-year-college-preparatory classes. A bonus from this program came when some of the student assistants became interested in teaching as a career.

Since the development of reading skills is the main purpose of the laboratory program, the teacher must plan carefully for the reading activities for the year. An "Interest Inventory," supplied in the student's kit, was completed by the students the first day of the semester and thus provided teachers with useful information on reading abilities, disabilities, and interests. In order to plan a reading program, however, the teacher must know the reading skills of each student; so emphasis was placed on diagnosing student needs and supplying proper materials and careful instruction to meet their needs. Since the teachers were not reading experts, the method of diagnosis was made relatively simple. Tests that were used for diagnostic purposes were the Metropolitan Achievement Test and the Gilmore Oral Reading Tests. Accurate interpretation of the test results required considerable experience. Simple reading placement tests were produced by the district to provide a quick means whereby teachers could determine approximate reading levels of students and find their most glaring

reading deficiences. Materials and techniques were tailored to meet the needs revealed by diagnoses. As one means of evaluation, another form of the Metropolitan Reading Test was given at the end of the school year.

It was found that a high percentage of the students needed to develop reading comprehension and word-attack skills; much emphasis was given, therefore, to the development of these skills. Filmstrips that provided for sequential development of the sounds of vowels and consonants and for the development of phoneme-grapheme relationships proved to be particularly valuable. A tachistoscopic attachment was used wherever its use seemed appropriate for group work. Besides class work in word-attack skills, viewers and table screen were provided for individual use.

Many of the materials used in the laboratories provided for instruction and practice in structural analysis. Specially prepared transparencies used on the overhead projector were very effective in aiding students in strengthening this particular skill.

Vocabularly building was stressed in every reading lesson. In the literature lessons, special emphasis was given to teaching students how to get the meaning of words from context. Transparencies which presented interesting and important words in context were prepared for every story and used on the overhead projector. The context clues were analyzed and, through discussion, the students arrived at the definition of the word being studied. All meanings were verified by using dictionaries, which were provided in class sets so that every student had one available at all times.

Critical thinking and evaluation of what was read were emphasized and developed through group discussion and through discussion of students' written evaluations.

The "listen and read" technique was used whenever there was a class assignment that some of the students could not read. Each laboratory had a specially wired table, equipped with head phones, to use as a listening station. Some specially prepared materials were duplicated and taped, and the students who were at a low reading level went to the listening station and followed the duplicated copy as they listened to the tape.

This procedure enabled them to take part in class discussions or in any other activities that followed the reading of the script. Previously, in the conventional classroom, these poorer readers had either pretended they read the assignment or had gone to sleep.

In addition to the reading program there was a comprehensive literature program that was conducted concurrently throughout the year.

Frequently, the teacher read the class a story, a poem, or a scene from a play, or played a record or a tape. Thus students learned to appreciate material that was beyond their ability to read by themselves. Poetry appreciation and enjoyment were also enhanced through group or unison reading.

Drama proved to be one of the most useful and stimulating media for high school terminal students. Plays were found to be of great value for motivating students to read, discuss, listen to, participate in interpreting roles, read aloud, or tape interpretations. To further motivate students through the use of drama study trips were taken as frequently as possible. It was sometimes possible to get free admission for a class to attend a dress rehearsal of a play being presented by one of the local colleges or by the local repertory theatre; occasionally there were special student rates. With the help of Federal funds it became possible to provide bus transportation to take students to hear and to see some of the plays. Discussion of the plays stimulated good speaking techniques and resulted in improved oral communication. Not only did drama stimulate oral discussion, it also served to stimulate writing that ranged from simple summaries to thoughtful evaluations, depending upon individual capabilities.

Oral activities held a prominent place in the English Language Laboratories. These students generally had trouble formulating questions. Before a speaker was to appear before the group, practice sessions were held; questions were formulated, and each student taped a question to determine how well he spoke. Each student was then encouraged to ask his question of the speaker.

Many class discussions were directed in such a manner that students learned correct techniques of participating in discussions. Many of the discussions dealt with problems concerning being courteous to speakers and other discussants. Frequently the discussions were taped and played back so that the students could evaluate their discussions and plan how to improve.

One of the best means for developing spontaneous oral expression was found to be the use of the sociodrama. Students, through role playing, learned to present a point and stick to it, to ask questions, and to answer questions effectively and courteously.

Learning to give directions and to follow directions are essential skills for students who plan to enter some occupation upon completion of high school. Much emphasis was given, therefore, to listening, following, and giving oral directions as well as to writing clear, concise directions and in following written directions.

Listening skills were developed concurrently with all lessons, and

special lessons in listening were developed and used with these students. At the beginning of the school year students were given an informal diagnostic listening test, and throughout the year other listening tests were given in order to measure progress. The interest of students in getting part-time jobs during their school years or in full employment after graduation was capitalized upon to develop listening skills in practical situations, such as taking telephone messages and writing them down accurately and listening to taped job interviews.

Daily newspapers provided the bases for many reading, speaking, and writing activities. A local newspaper provided copies once a week for each student. Many of the students who had never read newspapers became newspaper readers. They became interested in the front page makeup, weather reports, teenage activities, accident reports, letters to the editor, and editorials. Surprisingly enough, they were most interested in the financial page and each selected a stock and kept a record of its gains or losses.

One innovation that perhaps brought about the greatest salutory change in student attitudes was the introduction of typewriters into the reading, writing, and spelling program. In each sophomore class in the laboratory, students were oriented to the use of typewriters. Fifty to seventy-five percent of the students received typing lessons. They were encouraged to use typewriters for additional practice to improve their skills. Those who had no previous typing were taught the typewriter keyboard in six lessons. All students were urged to make use of this opportunity to develop their typing skills because of the importance of typing in helping them get jobs. The major objective in use of the typewriter, however, was to improve spelling and composition. Specially prepared programed spelling lessons for the typewriter proved to be very successful.

Senior classes were introduced to this program. Once a week students had the use of a laboratory and typewriters for writing their compositions. Not only did the use of typewriters improve the students' spelling and skill in writing paragraphs and longer compositions it had a beneficial effect upon attendance as well. Teachers reported that on the day students used the typewriters, attendance was very nearly perfect even though the typing day was Monday, a day of usually very poor attendance.

Permeating the entire English curriculum was the consistent, continuous attempt to improve student attitudes and responsibilities toward themselves, others, and society. Special lessons, suggested in the guides, were designed to assist teachers in this important task.

The materials used included films, literature, plays, live and taped job interviews, and class discussions.

There was definite improvement in student attitudes as a result of the English laboratories. Students reacted favorably to the attractive room environment, the new equipment and materials, the smaller class size, and the techniques employed by teachers. Lessons centered about their needs and their interests made them feel that the English course had meaning for them, that it was important, and that it could be enjoyable.

Under the traditional program, students similar to those in the laboratory courses rarely worked throughout a period; they spent time in misbehavior, sleeping, or doing nothing. In contrast, it was an exception when a student enrolled in the English laboratory did not work throughout the entire period. Attitudes toward developing skill in reading improved greatly. Teachers in other subject areas reported that many of these students began working much more diligently than they did formerly. Administrators, counselors, and teachers reported that the number of discipline problems was greatly reduced; rarely was one of these students referred to a counselor. Administrators supported the program enthusiastically. They felt that if there had been no other benefits, the improvement in student attitudes justified the effort expended and the expense involved in implementing this program.

Plans were made to offer a similar program to students enrolled in junior college preparatory courses.

The strength of the program lay in its reaching the individual student so that he was motivated to learn to read and to express himself in acceptable English. The weakness of the program was in the lack of teacher training in teaching reading. Through in-service training, with a corps of teachers who were eager and willing to learn on the job, this handicap was gradually removed.

SUMMARY

School organization in the improvement of the instructional program has merit if reviewed from an impartial and cautious viewpoint. Educators must keep in mind the characteristics of pupils and how they learn; available school plans and facilities necessary for implementation of new programs; the cost of programs; attitudes of parents, administrators, and teachers involved; and the skills of the teachers. Specific provision must be made for critical evaluation of

results. A careful study of research should be made to determine the historical background and information available.

Each generation, building upon the experience and research of the past, should seek to improve existing instructional patterns or develop new ones better adapted to the various conditioning factors of the type of school, the curriculum, the pupils, and the teachers.

As one gives a thoughtful consideration to this reason and these experiences, he may arrive again at the disquieting conclusion previously arrived at by the educational researchers before him; namely that organizational patterns seem to have little to do with pupil achievement when viewed in relation to the quality of the instructional program. What we do in teaching students is far more important than how or for how long we assign them to planned or elaborately equipped classrooms.

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WALLACE RAMSEY

UNIVERSITY OF MISSOURI
ST. LOUIS

8. A Conclusive Look at the Caring for Individual Differences in Reading

In a real sense it is not possible to take a conclusive look at the subject dealt with in this volume. More research is needed on every phase of the topic; but children, schools, school administrators, and teachers cannot wait for more research. Schools must be built; staffs must be recruited and given in-service training for whatever administrative organization is to be used; children must be grouped in some way; and instruction begun

All that can be done is to review some important facts as they relate to this topic and make some recommendations that may prove helpful.

Each of the chapters thus far has presented evidence concerning the nature of the problem and some possible solutions. This chapter will deal with the topics previously discussed but from the vantage point of one's looking at all the possibilities from a different background of experience.

The Nature of Individual Differences

The problem of assessing the nature of intellectual abilities of children (as they relate to both status and learning rate—mental age and IQ) is complicated by the fact that tests usually used by schools for this purpose depend heavily on reading. Such tests are usually administered by classroom teachers (counselors and psychologists being too few in number and too expensive to employ) who have had little training in psychometrics. The tests, therefore, must be simple to administer and score—if the reliability and validity of them are to be conserved. In order to hold down costs and not cut too heavily into instructional time, such tests must be short. It is perfectly natural under these conditions that items be used that rely on the child's ability to read them. This bit of expediency is costly in the long run when it causes poor readers to be labeled slow learners—as it often does.

It might be wise to declare a moratorium on group intelligence testing until such time that better tests become available, teachers become educated to their use and interpretation, and parents become informed concerning the tentativeness of their results. There is a real question in the writer's mind whether such tests are worth the time and expense of administration. The thousands of hours spent in administering, scoring, and entering the results on cumulative records might be better spent in instruction.

The complexity of inter- and intra-individual differences profoundly complicates meeting the problem of these differences. At a given point in time it is always possible to extract from a large group a smaller instructional group very similar in one respect, e.g., general reading level, skills needs, mental age, etc. (As Powell has indicated, the group will be heterogeneous in other important respects—this fact makes true "homogeneous grouping" impossible.) The passage of even a few days in time will make the group more and more dissimilar with respect to the original similarity as differing learning rates, cognitive styles, interests, and levels of effort exert their influence.

It follows that flexibility is a necessity in whatever type of grouping is used. Some mode of operation must be adopted so that it is possible at frequent intervals to move a child to a group in which the activity is most appropriate to his needs. It has been the writer's experience, however, that children tend to remain in whatever group they are placed whenever a new grouping approach is instituted. The rate of transfer from one group to another is far below that to be expected.

Part of the inflexibility of grouping lies in the attitude of infallibility concerning the standardized tests often used to place children in the original groups.

Experience in in-class grouping has illustrated for the writer the false confidence teachers place in tests. Despite the fact that substantial research has shown that the judgment of a well-trained teacher is a more valid measure of children's instructional level than are most reading tests, administrators and teachers still tend to place much more reliance on reading survey test results than on teacher judgment. In how many cases are instructional groups of the nature of the Joplin Plan, nongraded groups, and similar types based on survey test results?

Plessas (*20*), in one of the most comprehensive discussions, documents in detail the lack of dependability of survey tests to indicate children's *individual* instructional levels. Kilgallon (*14*) and Sister Mary Julitta (*13*) found that such tests place children one grade or more above their true instructional level. Botel (*5*) found a large

amount of overrating of children on survey tests at the first and second grade levels and an equal amount of underrating, overrating, and correct placement in intermediate grades. The inconsistency is so great that it is not possible to add or subtract a constant number to or from the survey test score to get the true instructional level. Results of the studies by McCracken (*17*) and Sister M. Catherine Davis (*9*) showed similar results. Both of the latter used carefully constructed informal reading inventories, one of which, McCracken's, has now been published (*18*).

The Davis study determined relationships among informal inventories, teacher evaluations, pupil estimates, and survey tests with fourth grade pupils. One of the Davis conclusions was that teachers' assessments should not be substituted for the informal reading inventory. She also felt that without special direction in evaluating their own reading ability, children tend to do a poor job of judging their own reading level. She and Plessas recommend the use of the informal reading inventory as the most useful method for determining the children's true reading level. Many other authorities concur.

Informal inventories are time consuming to construct and administer and often are of questionable validity and reliability. What is needed is a standardized inventory which has been carefully constructed and validated. The appearance of McCracken's inventory may be a solution to this problem. Objections to the use of older inventories and diagnostic reading tests have been raised by Ramsey (*24*).

A way of determining a reading level that is more valid and reliable, and more easily obtained than any of the above, may be in the offing. Ransom (*25*) showed that a *cloze* test can be effectively used to aid in determining reading level in grades two through six. Bormuth had previously found that the ability to supply every fifth word that had been deleted from reading matter (which is the "cloze" test) was highly related to comprehension of the material (*4*). More research in this area may produce a test which will be easily administered, easily scored, and will give an accurate reading level. Teachers would certainly welcome its availability.

Barriers to Flexible Grouping

Despite the need for flexible grouping, children frequently remain in one group throughout the school year or even over a period of several years. Allen (*1*) indicated that his research revealed an inordinant number of seventh and eighth grade boys who had been put in the

"slow" reading groupings in first grade and had remained in such groups throughout their school experience—despite evidence that they had greater-than-normal learning ability. In light of the fact that many boys are "late bloomers" and that a higher proportion of boys than girls are not ready to read in the first grade, it would be logical to assume that many boys would move up out of the slow group after primary grades.

The writer has observed the lack of flexibility of reading grouping in many elementary schools. He has observed, also, that in the few nongraded schools in which he has worked, teachers have a greater tendency (than in the graded school) to move children from one group to another. This difference may exist because in the nongraded situation any "catching up" that must be done when changing a child from one group to another frequently becomes the responsibility of another teacher. In the graded situation this condition is usually not true.

Results of Grouping

McGinley (*19*) expressed the feeling (based on some empirical and much deductive evidence) concerning first graders that children tend to remain in a reading group because teachers expect them to do so and because the social dynamics of grouping predispose them to achieve at the level of the group in which they find themselves. She reasons that in top reading groups there is present a reciprocal success-reward situation between pupils and teachers that stimulates the children's achievement and that a similar situation does not exist in lower reading groups.

The results of research by Rosenthal (*27*) give support to McGinley's contention. Rosenthal found that when first grade teachers were told that experimental groups consisted largely of late developers who would suddenly improve their performance, the children made greater gains than did groups of control children about whom the statement had not been made.

Mann (*16*), Axline (*2*), and Bell (*3*) found that children's self-concepts influenced their reading achievement, and Mann questions the emotional impact of ability grouping on children. Is it possible that in many situations the advantages of a child's being able to compete by being placed in a group of similar status are outweighed by the psychological implications of being in a group he knows is below average for his age and grade in school?

We cannot know at this point the exact nature of all the effects of

grouping. When ability grouping in reading is the *only* kind of grouping used in a classroom, it sounds reasonable to assume that it would have bad effects on children's self-concepts. This outcome is especially true if the teacher has the feeling that the lower groups are of less worth than the others and communicates this feeling to the children.

It is not known in what subtle ways teachers communicate their feelings concerning the worth of groups or individuals. (The writer has frequently had the experience of teachers talking to him at the door of their classrooms and telling him in a stage whisper which was the slow group or what were the weaknesses of a particular child). Research in counseling has shown that as small an action as nodding at the proper time or saying "yes" or "uh-huh" at the appropriate moment can have a marked effect on a client. By analogy one could conclude that equally subtle actions of teachers would have a notable effect on children in a classroom.

Many writers have recommended that several types of groupings (ability, interest, etc.) be used in classrooms and in various subjects. It stands to reason that if this diversity is presented, ability grouping in reading would have a less unfavorable effect. If Johnnie can occasionally work with his friend Bill in a social studies interest group, he is not going to be affected so adversely by being separated from him in reading.

Reading activities themselves can profitably utilize different kinds of grouping. In classrooms where class time and teacher encouragement are given for library book reading (as should be the case in *every* classroom) children can meet in interest groups for individual oral reading, sharing books, planning a dramatization of an event from a library book that each of three or four members have read, etc. Total-group choral reading is of benefit in many ways. Ability grouping for basal instruction or skills learning is viewed as one of several ways teachers and children work.

In-Class Grouping

In-class grouping makes it possible to keep children together in a family-like arrangement where a teacher can become well acquainted with twenty-five or thirty children and care for their needs. The value of such a situation for the shy and withdrawn child is substantial, especially in the primary grades. The number of first graders who are overwhelmed by the rush and hustle of school, and the bone-tiring requirements to sit reasonably still and attend to what is said and done, is legion.

The need for a mother surrogate, in such a situation, is great. To be with a child enough to find out which demands of school he can or cannot meet, and why he is that way, can result in a degree of understanding that will enable a teacher to make the learning situation successful and secure for every child. All of this depends, of course, on having a teacher who is curious, alert, perceptive, and discerning—and all teachers do not fit the description.

It is easier, nevertheless, for a teacher to really understand a group of children if she doesn't have so many to learn about and remember.

In the teaching of reading, since reading is probably the most useful learning tool in today's schools and is involved in every subject, one teacher who is teaching all subjects can use her knowledge about the child (and his idiosyncracies of learning to read) to good advantage. Lohman (*15*) has shown that reading skills can be taught as well at fourth grade level in connection with social studies and science as in reading class. The writer would not conclude that all reading should, therefore, be taught in content classes. *Some* reading skills, however, can probably be taught better in content classes than in reading class. Robinson (*26*) has pointed out, for example, that outlining can better be taught using expository rather than narrative material. Many other examples could be cited.

The above paragraph would suggest, therefore, that the process of having one teacher teaching all subjects to a small group would have some advantages in teaching reading over that of the teacher who teaches many more children and fewer subjects.

When teachers who utilize in-class grouping fail to do a good job, it is frequently due to insufficient materials, an uninspiring routine which lacks a variety of activities and approaches, insensitivity to pupils' needs, or having too many children to teach. Insufficient materials are certainly not a function of the administration provision used to care for individual differences—neither are too many children. Use of uninspiring routine and lack of a variety of activities may be a characteristic of a teacher at any level and in a school organized in any one of a dozen ways. Insensitivity to pupil's needs frequently stems from an innate lack of perceptiveness, an unsuitable mind-set, or poor training.

Teachers get in ruts (quite a different situation from being "in the groove") and can be lifted out of ruts by any measure which alters the teaching situation enough to demand some thinking, preparation, and changes in behavior of the teacher. Children and parents are sensitive to changes in teacher behavior. A teacher's excitement is caught by the children and results in greater interest and effort on their part. In

the past, changes generating this kind of excitement have frequently been administrative changes of the team teaching, Joplin Plan, or non-graded school variety with accompanying new problems, sometimes vastly more complicated than those in the previous situation. Wouldn't it make sense to find ways of generating this excitement while preserving the advantages of in-class grouping?

American schools have been notoriously under financed—in view of their appointed task of universal education. Our belief in the leavening and enriching effects of having children of disparate backgrounds and levels of intelligence in the same classroom has not been accompanied by the finances to cope with a situation so complicated. Classrooms have simply not been equipped with the mass and diversity of materials necessary to care for individual differences. State supplied textbooks constitute poor equipment to accomplish the task set for the schools.

There are evidences of the dawning of a new day in supplying classrooms with materials. People who have been unwilling to vote taxes to support schools at the local and state level have grudgingly agreed to permit the remote power, the federal government, to use tax money for schools. In many communities we have, in 1967, the strange phenomenon of disadvantaged children being taught in small groups and with a diversity and quality of materials denied to the "advantaged" children. How long it will be until *all* children are given the educational advantages that the "disadvantaged" children are now being given, no one can say—but the sooner the better! It is unfortunate, in a sense, that this result must come from Washington where, nevertheless, the most likely solution to the problem of under-equipped and under-supplied classrooms appears to come.

The writer would contend that in-class ability grouping has not outlived its usefulness. On the contrary, conditions are now such that the time is right for it to come into its own and pay the kind of dividends it has the potential to pay. Certainly the child in the culture of today needs the security of one teacher, one group, and one room to which he feels a sense of belonging, being anchored, and being able to draw from such a situation the kind of strength and understanding that will enable him to cope with the world's buffetings. There is no reason or need to discard the idea of the self-contained classroom; there is little evidence that its failures are due to intrinisic weaknesses. Energy might well be devoted to its improvement rather than to its grave-digging.

The Joplin Plan

The Joplin Plan has been pointed to as being "one of the most pro-

vocative reading plans ever to be developed" (*6*). This remark can safely be branded as one of the grossest educational overstatements of the century. At best, the plan can be described as a promising practice for experimentation; at worst, it may be a way for some teachers to escape teaching the poor readers. Its greatest danger lies in the possibility that the use of the plan will be an excuse for not having a well-planned program of reading *instruction* or that it will be heralded as an end to the need to adapt instruction to individuals. The writer has observed too many systems that describe their reading *program* as being "the Joplin Plan."

While its proponents do not even imply that a Joplin Plan group of twenty-five to thirty children is a homogeneous group, such groups are often taught as if they were homogeneous. Anyone possessing knowledge of the true nature of inter- and intra-individual differences would know that the diversity of need in a Joplin Plan group would be almost as great as in a classroom group and demands the same degree of adjustment of instructional practices to care for individual differences. In other words, in-class grouping or individualization are a vitally necessary part of the teaching of reading in the Joplin Plan situation.

The drawbacks that come when the child's content area teacher does not have intimate knowledge of the child's reading development are present in the Joplin Plan. Even if a teacher is vitally interested in every child she works with, the sheer weight of numbers prevents the teacher from having adequate knowledge about each one's reading.

That the Joplin Plan works well in Joplin is no surprise when one reviews all of the information pertinent to its operation (although it may be well to note the absence of carefully controlled studies to indicate its superiority in Joplin). A substantial part of its success is undoubtedly due to the skilled leadership exerted in its direction. The in-service training and supervisory leadership provided would make a profound difference no matter what plan was used. The existence of the recreatory reading period and the presence of substantial numbers of high-interest low-vocabulary books are powerful features of the program. There are many signs that the quality of instruction is quite high.

The superior achievement shown by many of the Joplin Plan experimental groups can be attributed to the Hawthorne Effect—the influence of "newness" on the energy exerted by teachers and pupils. In very few of the studies was the inauguration of the Joplin Plan the *only* change made when spectacular gains were obtained.

The Powell study (*21*) is one of the few in which most of the impor-

tant variables were measured and controlled—and it did not show any superiority for either plan.

The chief advantage of the Joplin Plan lies in the possibility that by inaugurating its use certain other changes will take place that will have a very favorable effect on reading achievement. If teachers are thereby made more perceptive to individual differences and more determined to do something about them, then it serves as a highly useful device. If the adoption of the Joplin Plan can change a situation from one in which the poor reader has *little* chance to succeed to one in which he feels he has a *good* chance for success, then the step taken is a good one.

Individualized Instruction

The promise of individualized instruction is almost without limitation. To be able to suit instruction to the specific needs of every child is an objective worthy of striving for even if attainment is not possible. It is a pity that too frequently teachers and schools are unable to achieve the objective. The writer views individualized instruction as a goal that will one day be achieved in most American schools. Several changes are needed before this goal comes to pass, however.

Reduction of class load is a first-order necessity for individualization. The statement that research has shown no clear-cut advantage for smaller classes is an excuse, not an explanation, for not reducing class size. As long as teachers teach classes of fifteen in the same way they teach classes of thirty-five, there will be no advantage in reducing enrollments.

Actually, successful individualization involves the basic way that teachers *think* about children and teaching. To perceive them as individuals, to be alert to their needs, to view learning as something which children structure for themselves—these are the changes that must be brought about in teaching.

An intimate knowledge of how reading skills are taught is most helpful in individualizing reading. One excellent supervisor whose teachers were signally successful in individualized reading gave the writer an eight-word description of the best kind of skills preparation for such teaching: "Five years of experience in teaching basal readers." What the teacher does in the absence of this experience was not made clear.

The writer can see problems in teacher education for individualized reading—problems that cannot be solved in the present framework of undergraduate teacher preparation. Opportunities to observe *how* such

teaching is done are sadly lacking on most campuses where teachers are trained. Such observation is highly desirable if a program is to produce teachers possessing the attitudes and abilities to succeed in individualization.

The reading fraternity is deeply indebted to the zealots of individualized reading. This latter group of highly vocal but dedicated people helped us refocus our attention on what is important in teaching reading. Some professionals, in their eagerness to find and perfect the best method of teaching word perception or to most perfectly control the introduction of sight vocabulary, forgot the role of the library in helping children to *learn* to read. *Reading books* has always been a good way to perfect one's basic reading skills. The size and availability of the library collection are probably more important than which basal series is used—or whether a basal series is used at all. Few individualizers would dispute the need for skills instruction, but they stress the overpowering need for follow-up practice in books which lure the child on to get the meaning.

The economy of educational plenty may be the final change that will usher in the era of individualization. Large quantities of materials *are* needed to make individualization work, and increased educational expenditures will make the purchase of such materials possible. It is all right to say that we can equip classrooms with books from attics and children's personal libraries, but in our saner moments we know that such measures are only stop-gap and won't work in every school.

There is little more to be said about individualization. It is a procedure that needs to be used no matter what administrative provision is made for individual differences. It seems to this writer that its use would be less complicated in the self-contained classroom, where the total number of children to be kept in mind is fewer. However, its use in any situation is desirable and should, therefore, be promoted in whatever way possible.

Team Teaching and Departmentalization

The rationale used to support team teaching and departmentalization is logically simple and sound. By permitting a teacher to teach only (or mostly) in an area where his training and interests have given him special strengths, he exposes more children to better instruction in his speciality. By combining two or more classroom-size groups, homogeneous groups can be set up and mass teaching can be done.

(Mass teaching is not an intrinsic part of these approaches but often is used.) In content areas, the teacher who has had several more courses in science, history, etc., has a greater background and thus (it is reasoned) will make a better teacher *in the field* than the other team members who have specialized in other areas. Specialization may be in *how* to teach in a certain area (reading, for example) rather than in subject matter.

Team teaching and departmentalization in reading have frequently come about because one or two teachers have had advanced training in teaching reading and are chosen to teach reading (usually corrective or remedial) to two or more groups of children. Because of the great shortage of well-trained reading teachers the use of special teachers in the field is booming. Quite frankly, many of the Title I ESEA projects could not function if this specializing were not done. As a measure of expediency, then, teaming and departmentalization are filling an important void. Whether the situation created by an emergency will develop into a long-term plan is not possible to say. Research illustrating the long term superiority of the two innovations is certainly lacking.

The barriers to getting funds for evaluating long term effectiveness of several innovations discussed in this volume have been cited by Heathers (*28*): "The unwillingness of granting agencies to provide sufficient funds for applied research and development on new organizational plans has been a stumbling block. Ordinarily, funds have been granted for demonstration-tests of plans rather than for bringing plans to the level of development where they are ready to be tested or demonstrated. This has been true with *team teaching plans, nongraded plans*, and the dual progress plans" (Italics are this writer's).

Research on the long term advantages of such plans is further complicated by the fact that, frequently, when teaming and departmentalization are instituted, certain other changes are made which make the new situation different in several respects from the old. (School administrators have not hesitated to publicize achievement test results from old and new groups, labeling them "control" or "experimental" and attributing differences to teaming or departmentalization or whatever innovation has been instituted.)

An example of multiple changes when teaming is introduced is revealed in a description of the Norwalk, Connecticut, Plan (*26*): "A report on the Norwalk Plan after two years summarizes attitudes of the fourteen volunteer team teachers without giving specific findings. The most attractive feature of team teaching, in the views of these

teachers, *was escaping from clerical and other routine duties that were being performed by nonprofessional aides.*" (Italics are the present writer's.) Even in the Norwalk Plan there are undoubtedly *other* important changes that occurred when team teaching was begun.

It is hoped that despite the problems present definitive research can be done to properly evaluate the plans. If studies can be designed (and enhanced) that will meet the criteria for good research studies in reading (*10*), some helpful answers should be forthcoming. Not until we get the results can a firm decision be made about the value of any of the innovations described in this volume.

Nongraded School

Nongradedness is one of the most exciting of the innovations now being tried in education. This conclusion is due, in part, to the rationale so succintly outlined by Goodlad and Anderson (*12*). Visiting and working in new schools specially constructed for nongraded instruction (like the Sherwood Elementary School in Greeley, Colorado, or the Dixie and Lansdowne Elementary Schools in Lexington, Kentucky) with their carpeted classrooms and movable walls are exciting experiences.

Buildings, however, do not make a program. The writer has observed rigid, unimaginative programs in buildings built on specifications suited to a far more flexible and imaginative program. Some curricular crimes being committed in the name of nongradedness would chill the blood of Anderson, Goodlad, and their disciples. (The writer is *not* referring to programs in the three schools mentioned above!)

The great amount of movement and noise extant in nongraded schools would seem to the writer to be unsettling to a child who lacks emotional stability or who is high strung, easily distracted, or insecure. (The writer would certainly be interested in finding out how brain-damaged and perceptually handicapped children would fare in the hustle and bustle of the nongraded school—especially in those rooms full of colorful bulletin boards, with near and far movements of large numbers of children, and with a wide variety of noises.) The relatively large numbers of adults that a child must meet with, and relate to, in a nongraded school call for more maturity and stability than many children possess.

There are indications that teachers and administrators in nongraded schools recognize the problems referred to above. One group of four

teachers working with 120 first graders in a carpeted, gymnasium-size area told the writer that they had requested the installation of sliding doors to cordon off small "room-sized" areas for instruction because of the high noise level and the distracting movements of teachers and children in all parts of the area. (It is significant that in an evaluation of a team teaching experiment in Oceano, California, that almost half of the teachers who were interviewed in the course of evaluation of the project favored continuing the experiment *if* soundproof movable walls were provided.)

Nongraded school teachers are frank in saying that some children simply cannot adjust satisfactorily to the nongraded school. The creation of "satellite" classrooms (essentially self-contained) in the laboratory school at U.C.L.A. is a tacit acknowledgement of this fact, in the judgment of the writer.

In a sense the commitment of nongraded education is a lot like the commitment to individualized instruction—it is a drastic step for teachers who have had certain stereotyped ideas about the nature of differences (especially intra-individual) and the ways children learn. Unevenness in the rates of development within an individual (or even unevenness of development in a single trait) make the need for flexibility in grouping particularly acute in the nongraded school—if the Goodlad philosophy of education is to be carried out. Children do not settle into a group and stay there. They frequently are on different group levels in different subjects. The need for moving children from one group to another is demoralizing to teachers who want things to "settle down" so learning may proceed. In the nongraded school things almost never "settle down." In a real sense the nongraded school is for the young or the young in heart.

Personnel of school systems jumping into nongradedness without making sure the total situation is ripe for it often live to regret their move. In recent communications with officials of over 130 nongraded schools in the nation, the writer found over twenty that had abandoned the plan in the last three years. This percentage does not necessarily indicate innate weaknesses in the nongraded philosophy, but it does very probably indicate difficulties in implementing it.

Final judgment on the ultimate value of the nongraded school awaits definitive research. On a dollar-for-dollar basis it may be as supportive of children's social and emotional growth while stimulating optimum academic achievement as is a graded school. We cannot, at this point, say. Factors unrelated to school organization will probably determine this matter.

Dynamics of Success

Success or failure in teaching reading is influenced by a whole constellation of interrelated factors; and the degree of influence of any one factor, such as school organization, is difficult to isolate and measure. The complexity of human behavior and human institutions is the cause of this state of affairs. Research in reading has only begun to explore the complex relationships existing. Even now we may lack the tools of measurement that will permit the kind of analysis needed. Parents and school personnel are resistant to the kind of probing necessary to get the data that would satisfactorily answer the question, "What kind of organization is best, here, now?"

The nature of the whole community in which the child lives—the nation, state, local neighborhood, and family—exerts a powerful influence on reading growth. It may be that financial support is symptomatic of the total community and is, therefore, one of the best predictors of success in reading of a given group of children. Recent studies have shown that financial considerations are primary. One recent research study, *Project Talent* (*22*), has revealed that four of the most important treatment factors closely and uniquely associated with school outcomes, such as achievement, are teachers' salaries, teacher experience, number of books in the school library, and per pupil expenditure. It is significant that three of the factors are functions of financial support.

A more recent study by Clark (*8*) disclosed that three background variables—per-pupil expenditure, local educational level, and teacher's salaries—accounted for two thirds of the total variance of the index of "educational effectiveness," essentially a measure of academic status. (Clark's study examined economic, demographic, and educational background factors which accounted for the variation in educational success among various geographic regions in Kentucky.)

Another recent study sought to determine the relationship between reading achievement and such factors as practices in teaching reading, types and amounts of financial support for schools, and length of teacher service and the extent of education (*23*). Over fifty Kentucky school systems enrolling over 100,000 children were involved in the study. Schools achieving in the upper 25 percent in reading were also high in such factors as local financial support, teachers' salaries, educational level of teachers, time devoted to teaching reading, and the number of innovations used (Joplin Plan, individualized reading, etc.).

Teachers employed in the high achievement districts had fewer years of experience than did those in the low achievement districts—

indicating more recent training. It was felt by the research team that the greater use of innovations was symptomatic of progressiveness of the school systems. A cause-and-effect relationship was not warranted, the group felt, because of insufficient data to draw sweeping conclusions about the effect of innovations.

One final factor needs to be considered as a variable influencing achievement—the teacher. Very little research has been done to determine the personal and professional characteristics possessed by teachers whose students achieve optimally. It is nearly always possible to get supervisors, principals, parents, and children to say who the good teachers are. Very frequently these are the same people whose students achieve well on standardized tests (we have no body of empirical evidence to indicate how often it is true). Very little effort has been made to determine what these teachers are like or what techniques they use.

One study, that of Chall and Feldman (*7*), tried to explore "the kinds of teaching procedures and teacher characteristics found among teachers who were said to use one particular method" of teaching reading. Eighty-three measures of teacher variation were taken through the use of a "classroom observation inventory." Eight of the variables were selected for analysis of variance and all eight showed a significant association with pupil reading achievement measures. They were: overall competence, *a sound-symbol approach to reading, high level of class participation, amount of approval given during reading lessons, *appropriateness of level of difficulty of the reading lessons, moderate control in classroom structure, attention given to individual differences, and *a thinking approach to learning (*7*).

Only the factors starred were found to be positively related to reading achievement when initial pupil reading status and teacher experience were used as covariates. Another important finding of the study was that "teachers using one given method vary in their implementation of that method, that these differences in implementation can be observed reliably, and that the observed practices are not related to those the teachers themselves report." In other words, adopting a series of materials (or a phonics "program") and giving it to a group of teachers to use are not indications that they will all use it alike—even when they say they will! One is tempted to say, "Bless them for their individuality!" —but such individuality plays havoc with controlled research.

The Chall-Feldman study is not a conclusive piece of work. The authors themselves point out, first, that, "it was not possible to state all the different teacher characteristics that are positively related to

pupil achievement, . . since not all of them could be tested" and later that, ". . . the small sample of fourteen teachers provided for only a limited range for comparison of variations in method." It points to one important direction, nevertheless, in which research in reading should go. Since what teachers *do* makes a difference, we should discover, as accurately as we can, the nature and importance of what they do that *does* make a difference.

The use of the Flanders Interaction Analysis technique to record the kinds and amounts of classroom verbal behavior of teachers and pupils may have substantial potential for use in research to discover the kinds of teacher behavior that influence pupil reading achievement. Furst and Amidon (*11*) have used it to determine differences that exist between interaction patterns in reading class and classes in other subjects. Changes have also been noted in interaction patterns in reading class as one moves from first to sixth grades. They found that teachers in primary grades spent more time in questioning but that this time declined in intermediate grades as lecturing increased. *This change might account for the notorious decline in increments of learning to read as the child moves up in the grades! At any rate, Furst and Amidon have pointed the way for the beginning of studies of good and poor reading teachers and the differences in verbal interaction patterns in their classes. If we could discover which patterns good teachers generate in their classes, it might be possible to help poor teachers become better teachers of reading.*

These ideas are mere suggestions for research that will help answer the question, "Which patterns of teacher behavior stimulate high achievement in reading?" Once the patterns are known, we can begin to utilize preservice and in-service programs to help teachers follow them and thereby improve their teaching.

To some extent we already know what some of these behavior patterns are. Most of us have observed that such factors as teachers' enthusiasm for reading, the energy level displayed by teachers, and the willingness to work hard are attributes that favorably influence pupil behavior and achievement. To some extent it can safely be said that all of the administrative provisions reviewed in this paper can serve to bring about all of the above.

Teachers grow tired and become dull in following the same routine year after year—whether it is using the same basal series, utilizing the same method of grouping, or working with children of the same age. The institution of a new way of grouping (whether called the Joplin Plan, team teaching, or nongraded school) moves teachers out of their ruts and requires them to awaken their minds, use their crea-

tive abilities, adjust to new conditions, and change their ways of doing things. Teachers, like children and most other adults, thrive on activity that is the correct balance between routine and change.

The "newness" of programs heightens the energy levels of teachers; their rates of activity pick up; their voices are more animated; they are exhilarated by the new opportunity, and they communicate this enthusiasm to children. The children, in turn, raise their activity levels. By the time all of the animation is communicated to parents and the community, the whole effect "snowballs"—and the result is greatly increased productivity, the true "Hawthorne Effect."

The administrative provisions discussed here have another value, too. In many school situations there is need for many, many, small changes in the ways teachers work with children, the ways children work with one another, the ways principals work with teachers, and the ways administrations work with boards of education and the public. All the small changes would never be brought about if the *total* situation were not substantially altered. In the spirit and climate of change that operates when administrative changes are being made, teachers, pupils, principals, and boards of education will do things they otherwise would not. Money is obtained by boards of education to buy new materials and hire teachers' aides. Teachers will treat children a different way if the new way is masqueraded as part of a massive new program. Teachers who heretofore would not speak to one another in the halls now cooperate to make a new plan work. Staffs that previously didn't have time to plan together now find time for lengthy meetings to discuss implementing an innovation, which they are fond of calling "our new program." In a very real sense this outcome is all as it should be—because change is a sign of a live, growing institution—be it social, economic, or educational. The man in the street knows this, albeit he may not verbalize it or even be conscious of it, and it is a sign to him that *his* schools are not dead but are moving toward the day when quality universal education is a proud reality.

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